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Commissioner

Bills against the College should be presented monthly, and, when audi ed, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, accompanion of the concerning the college and the content of the concerning the college and th

examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

RESERVE FORCE.

BY PROF. O. E. OLIN.

IN all extended effort or great exertion or important emergency there is need of surplus energy, of a feeling that back of all the force exercised there is still power unused. It is this power in reserve that gives certainty and completeness to action, such as can be gained in no other way. The necessity of it is shown in many ways. The general who goes into battle with no organized reserve stakes his cause on a single charge. No business, whether insurance or banking or merchandising, is considered safe if it does not provide for security in times of depression or disaster. In seasons of epidemic, oally those who by proper habits of life and work have conserved their vitality have any assurance of escape.

This same principle may be applied to life in all its phases. To say and believe, "I am at my wit's end," is to acknowledge defeat. Moreover, the man, who, at any moment, is using all his available power, is in danger. We have often been startled by the sudden failure of men who seemed in all ways best fitted to carry on the work of society and of government. Such men have usually been living in a way to task their utmost endeavors at all times, thus leaving nothing with which to meet the least variation or additional strain. There is no secret in the sudden death of such a man. People seldom break down under a continuous strain, nor under an abrupt or violent one, if they have sufficient reserve to meet it. A plain violation of the simple law of force is responsible for the great majority of failures in every activity of life-physical industrial, mental, and moral. This means that in the careful life there is always something kept back for the emergency, some expedient that has not yet been tried, some power that has not been brought into action.

The advantages of recognizing and acting upon this real necessity of life are both negative and positive. The chances of sudden tailure, or failure at all, are greatly lessened. Many difficulties, that might, under other circumstances, become serious, are easily overcome. Not only is more work done, but work becomes a pleasure. There is the same difference that there is between the swing or whirl of machinery that has power enough and to spare, and the heavy throbbing or the creaking of the engine that is taxed to its fullest capacity. Reserve force acts with a continuous rebound that serves in our lives-as the balance wheel in machinery-to keep momentum steady.

Aside from the advantages that come from actual accomplishment, there is a confidence in self that is inspired by ability to do. This is a wonderful stimulus in life. It prompts one to greater endeavors, and leads to higher and better thinking. It is an essential element in character. In fact, a growing reserve of mental and moral force makes character; for the man who has barely enough strength to resist temptation has nothing left for positive righteousness, and must, necessarily, while in that condition, live a defensive and negative life.

This latent vitality has much to do with the mystery of influence and leadership. The higher and fuller, and therefore stronger, attracts the lower and weaker, by the law of mass, if by nothing else. The laws of the material world are not so very different from those of the mental. Nature has not many laws, but infinite adaptations of the few; and so there have been men whose simple presence, from the very exuberance of their power, meant conquest without a struggle. When this reserve force becomes so great that we cannot easily find its limitations, we have the

hero,-but it must be that great. As Emerson says, this power must be so full that we do not see the tug and strain of conflict. He only is the hero who can do great things greatly. The world has had many such heroes; why are there not more?

Yes, why are there not more men and women whose powers of body, mind, and soul are far above their daily needs? This is the practical question; and it is practical because it is within the reach of all to make their powers at any time greater than they are. Heredity endows us, and life in numberless ways disciplines us, without our understanding either, perhaps; but what if we should come into conscious accord with both, and work with definite plans to develop all our latent powers? Might we not expect to find here the same skill of improvement that we have shown our ability to acquire in other lines? If we ever become wise enough to avoid all habits that benumb the faculties, reduce vitality, and fritter away strength, we shall have a generation that will prove their right to the control that all so much desire. It is certainly a wonderful choice that lies in the hands of young people today. From our increased knowledge of the laws of body and mind, the influence of any discipline may be increased tenfold in developing and storing, in years of youth, such strength as shall be a constant reinforcing power through all a busy

STUDENT LOYALTY.

BY R. S. REED, '92.

UR loyalty to the College has been criticised at different times by our superiors; and, of course, "As the old cock crows, the young one learns;" and as a seeming consequence, some of the students have begun to doubt our feelings toward the College as being the most sincere. To remedy this fault, some have suggested the idea of forming base-ball and foot-ball teams, fraternities, etc., as the students at kindred institutions have done.

Perhaps a casual observer might think there is a lack of loyalty in the students, if he were in the company of a select few: these to be composed of the "chronic grumblers," usually meaning the dissatisfied "P. M." in this institution. But he would be a casual observer to form such an opinion; for if one will only take the pains to watch the entire movement, I think he will be convinced that the great majority of students who have been here any length of time have become attached to the College as a sort of second home.

To be sure, we have no fraternities from which we might spare a little time once in a while for study, or compel the Faculty to act in restraint. Neither do the students spend their extra time running around over the State to play challenge games of ball. A very little of this goes a long ways here, as the majority of the students are farmers' and laborers' children, who have something else to do. Instead of playing ball during extra hours, this time is usually spent in trying to earn money to pay their way, or save sending home so often to be replenished from the paternal treasury.

Even if our loyalty does not gain a State reputation by flaming uniforms, college yells, and collisions with the police in German University fashion, I believe we all have the loyalty ever on duty, ready to be called up at a moment's notice, as was shown when T. E. Wimer's poem, the "Webster Glee," was sung. I doubt if there was a student who listened to that song but felt a thrill of pleasure and heartily sanctioned the words,

"And we love, don't you see, Our dear K. S. A. C., For we're boys of the Sunflower State." As it has been, I believe it will be under similar circumstances. Whenever there is occasion, the students will show their loyalty; and in after life, in looking back over our college days, I doubt not but we will all be thankful that we had the opportunity of getting our education without straining our lungs on college yells, without crippling ourselves up in ball teams, and without worrying the Faculty over fraternities.

STORM AND CALM.

BY ORA R. WELLS, '92.

WEATHER-WISDOM is a department of science in which the unlearned are often quite as well informed as the wise. That after the storm follows a calm, is a long-established law of nature which none will attempt or wish to contradict. Everybody knows it, because all are equally privileged to observe it.

We see, rising above the horizon, a cloud; small, it may be, at first; but it quickly grows larger, heavier, and darker, until it has its great, black canopy extended over the larger portion of our clear blue sky. We rush to fasten the doors and windows, then stand dumb with horror and gaze out upon the surrounding blackness. We are painfully conscious of a low, indistinct muttering; then suddenly the storm bursts in all its fury. We see the dazzling flashes of zig-zag lightning, then hear the loud crashes of deafening thunder. Torrents of rain descend, and so violently are they driven by the wind that we can only observe the surroundings as wrapped in great white clouds. But, finally, the wind and rain cease, the remaining clouds are passing silently away, the sun shines out brightly, and we see, brilliantly arched in the eastern sky, "the heaven of flowers." A quiet calm settles over all; and nature, rejoicing in her recent refreshment, thankfully drinks in the bright rays of sunshine, and all is peace and happiness.

Thus it has been for ages. After the storm, a calm. What an old law it is! And it is one which applies to humanity, also, as well as to nature, though differing widely in the two spheres.

As a law of humanity, storm and calm is applicable in many ways. Were you not so familiar with the story of our nation, I would think it profitable to surround myself with United States histories, and, after again looking over the fields of conflict, paint the awful pictures, hold them up and say to you, Behold the great storms for independence and liberty! I would tell you of the heavy clouds which darkened the skies for years before the bursting of the storm. I would point out to you our fathers, while the storms were gathering, watching and courageously waiting developments; aware that not only were their heavens eclipsed, but smouldering in their midst was hate's fierce fire. Later, I would show them to you in the very fiercest of the storm. We should see them enter that desolating fire without flinching, a tempest of shot and shell howling above their heads. But in the next all would be clear and bright, and we would look upon a peaceful, prosperous nation. I would perhaps tell you the French Revolution was such a storm; deadly to those who were out in it, but leaving France with purer air and brighter skies. All this, I say, I would do, but you have heard it so often.

Individually, there are some whose life is one continuous, never-ending storm. Look, if you will, at the life of Edgar Allen Poe. His, indeed, was short, stormy, and sad. He had great chances of success at the beginning of life. The advantages of education and society were his. Nature had given him a pleasing manner, excellent talents, and a face to hold one's attention in any crowd. On these foundations he took his stand; and what his life might have been, had he not defied his good genius and given away to tempta-

tion, we can only imagine. In all the curiosities of literature we do not find a more melancholy story than that of Edgar Poe. Plain it is that his could have shone among the brightest of literary lights had it not been early destroyed by the furious storms of his life.

Go back to the life of Napoleon, and you find it one long fight for self-ambition. Thus it continued to be until he was banished to St. Helena; where, shortly before his death, he has been described as standing, his hands crossed behind him, gazing out upon the sad and solemn sea. Perhaps he was thinking of the stormy past, perhaps of the dark and dreary future. Who can tell?

We are all subject, more or less, to what might be called cyclonic periods—action without deliberation. Of course, there are some acts which must be committed quickly if committed at all. But we are too apt to act quickly when time for thought should be allowed. After the fit of anger, comes the mellowing wave of conscience; after the quick action, comes the slow deliberation that makes the haste look horrible; after the passion, comes the penitence, and before the clouds clear away, and even before the tremor subsides, we stand shocked beside the ruin wrought in frenzy. We kill in madness, and bury our victims in sorrow; shriek and yell and laugh while the blood flows, but tremble and grow weak while vainly endeavoring to wash the red stains off our hands. We plot to move the mob, and plan to check it; rush forward with the torch, and hasten to throw water on the flames. To-day we are apt to be sinners, tomorrow, saints; today, law-breakers, tomorrow law-makers.

A little less forbearance and a little more foresight, a little less rashness and a little more prudence, a little less law and a little more enforcement, would, perhaps, be better for us all. Then would such destructive storms be more as the summer storm described, short and without evil effects, and during the long intervening calms we would strive to make happy beams of sunlight shed their golden splendor o'er all those with whom we associate.

GROWTH OF COLLEGES.

BY M. O. BACHELLER, '93.

PROBABLY all of us know what a college is or should be, whether large or small. Most of our early places of learning were founded for the purpose of liberal education, in accordance with the belief of that time. This was when books were not only scarce but expensive, and research had hardly begun, and was much less appreciated except by those who were living in advance of their time. Although planted in poverty, yet the colleges increased in number, until now they are to be found in every civilized country.

The founders of these institutions were often not educated or cultured men, as we might infer; but believed a general education was better for one than to be skillful in a single profession. A professor had charge of the various branches taught, and I think it cannot be said that graduates from these were not proficient men, for we owe the foundation on which our government stands to some of the efforts of the graduates and students from these self-made institutions of learning.

In selecting college sites and determining what courses of study shall be pursued, people should not consider what will be the most convenient and useful to our exceptional genius, but rather what will develop in the best manner the intellect of the average student. Such places have sprung into existence as if by magic, some having greater advantages than others in the way of educational funds or public donations.

The growth of a college depends largely upon the training, the thoroughness of its course, and the talent employed. The student's mind should

be under the best instruction, and to encourage educational profession, we must provide such salary that those who are qualified for teaching will seek that profession. I think, too, that we should keep back our desires for fine buildings until we can make the profession of teaching a fairly lucrative one. Any one who recalls to mind all his acquaintances from childhood up, and notes the difference between them in after life, must be astonished by the evidence thus offered, what superior men and women proper early training makes. I mean that those who have been educated physically, morally, mentally, and technically, gaining a harmonious character, wield the hignest influence everywhere. The real growth of colleges is therefore in their efficient teachers, with earnest students and convenient apparatus.

DEVELOPING MENTAL STRENGTH

BY PROF. O. E. OLIN.

WE have, in various pleasant forms, exercises for developing every muscle and organ of the physical body; why should we not in a similar way attempt the development of the mental nature? Of course the discipline of study is intended gradually to do this; but why not intentionally every day call forth and exercise, with definite purpose, the different functions of the mind? If a particular muscle of the body is weak, we work directly to strengthen it. A mental faculty can be strengthened just as readily as a bodily organ. It is, therefore, cruel to say to a boy or to a man either, that because he now has poor judgment, for instance, he must always remain a failure.

We know how the different faculties are brought into play. It should, then, be comparatively easy to prepare exercises that appeal directly to perception, association, memory, continuity, abstraction, vision, judgment, etc., with a view to their strengthening. It may be possible, thus, in a large measure to overcome absent-mindedness, mind-wandering, or weakness of mind. To one who will patiently, by daily practice, test the possibilities of his development in this way, the difference will be as great as that between the haphazard physical development by farm life and the same development under the scientific conditions of the well-appointed gymnasium.

WASTE ON THE FARM

While the claim is being so impressively urged that agriculture is in a depressed condition, there is a great reason why the average farmer should see well to it that he avoids every waste possible that is likely to occur upon the farm.

It is unnecessary to mention all the directions in which waste may occur, as they are too numerous; it is sufficient to know that they do occur, and because they are thoughtlessly allowed is the greater pity. They seem to be lost sight of, and so are no cause for anxiety or concern.

The farmer would be looked upon as crazy, almost, who, by an expenditure of money for fertilizers and of labor in the production of a crop, should allow the crop to go to waste instead of harvesting the same, and especially when the same had a market value; and yet there are farmers who do fully as bad as this, only in a different direction.

The purchase of farm implements means one expenditure of money, and they are the representative of so much money to the owner; and the destruction of these means a loss of that amount. So, if it is brought about by means of carelessness or what might be avoided, it becomes a waste.

- It is not an unusual thing to see farm implements left in the field exposed to all the atmospheric changes that occur, from the time they are last used until they are needed again in the routine of farm labor.

To make farming more lucrative and attractive, we must adopt new methods, apply more science, more brain work and less hard labor, more knowledge and more intelligence in conducting this important branch of industry.—New Hampshire Mirror and Farmer.

February 6th.

CALENDAR.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement.

1892.93. Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Professor Brown has spent the week in Leavenworth on business.

The Kansas Weekly Capital now boasts a College correspondent.

The Fourth-years are furnished a lunch by the Cooking class on Wednesdays.

The Museum has received a pair of ruffed grouse skins from Michigan, the gift of M. J. Bryant.

Professors Walters, Graham, and Georgeson attend a Farmers' Institute at Bluff City, Harper County, this week.

Miss Florence Belgarnie, the English lecturer, visited the College Tuesday morning in company with Mr. Hogg, of Manhattan, and found much interest in buildings, grounds, equipment, and methods.

Assistant Marlatt has just finished a dozen large bromide prints of College views, which are the admiration of all who see them. A view of the main building from the main entrance is pronounced the best yet produced.

Prof. W. A. Kellerman, of the Ohio State University, late of Kansas, has in the Ohio Farmer an abstract of a lecture recently delivered at the State Agricultural Convention. His subject was "The Rusts and Smuts of Wheat-Their Life History and Prevention."-Kansas Capital.

Superintendent Lapeer Williams, of the Kansas School for the Blind, spent the afternoon of Thursday at this College in the company of Dr. Ross. He expressed great satisfaction in the equipment of the College, and spoke with enthusiasm of the prospects of the School for the blind.

The Printing Office has a new Webster's International Dictionary which ought to keep both compositors and proof-readers straight for a year or two, until some new words are invented. Still, the new International cannot decipher "blind" manuscript, the printer's favorite scapegoat.

Several students went to Topeka yesterday afternoon to attend the oratorical contest between representatives of the State University, State Normal School, Washburn, Baldwin, Salina, Ottawa, Winfield, and College of Emporia. A representative was chosen to represent Kansas in the intercollegiate contest at Minneapolis, Minn.

President Fairchild attended a successful Farmers' Institute in Mission Township, Shawnee County, on Wednesday. Oak Grange Hall was filled with earnest men and women who showed in every way the thrift and enterprise of that community. The programme was a full one, and well handled, a basket dinner being one of the most important items.

Funds for the Kansas Educational Exhibit at the Columbian Exhbiition are already accumulating. The State Reform School has the honor of being the first contributor, its donation of \$7.50 having been made in January, 1891. President Fairchild having filed a bond of \$20,000, is duly installed Treasurer of the Board of Directors for the Kansas Educational Exhibit at the Columbian Exposition.

The first division of the Third-year Class entertained the Chapel audience yesterday afternoon with the following programme: M. O. Bacheller, "Persecution in Russia;" J. W. Brooks, "The Encouragement of Crime;" Martha Cottrell, "The Cook;" E. M. S. Curtis, "Wealth: Its Centralization and Power;" D. T. Davies, "The British Nobility;" Laura G. Day, "The Women and the World's Fair;" Albert Dickens, "Influence of Environment."

GRADUATES AND STUDENTS.

W. W. Hutto, '91, visited the College last Saturday.

Rumor has it that J. U. Higinbotham, '86, is soon to be married to a Chicago lady.

The Mercury says that Delpha Hoop, '90, is teaching in District No. 51, near Bala.

H. U. Brookhart, a First-year student, cut his fingers badly in a job press in the Printing Office Tuesday afternoon.

W. P. Tucker, Fourth-year, had charge of the Printing classes Monday, Superintendent Thompson being confined to his room with the grip.

E. J. Abell, Third-year, is offered a position as foreman of the State Industrial School farm at Beloit, but declines it that he may complete his course here.

Two recent chapel orations-"The Farmer's Wife," by May Secrest, and "Plea for an Independent Interest in Politics" by F. C. Sears, both Fourth-year students,—find a place in the Kansas Capital of last week.

E. W. Curtis, Third-year in 1890, has been appointed Superintendent of Exhibits for the Dairy School of Wisconsin, at the exhibition of the National Butter-maker's Association, to be held at Madison, Wis., February 16th to 19th.

A list of Pottawatomie County teachers kindly furnished by Supt. Wallace contains the names of graduates J. W. Bayles, '89, and W. W. Hutto, 91, and former students, Mary Galloway, E. F. Beal, Clara Grossnickle, Amy Grossnickle, and S. I. Thackrey.

At the meeting of the State Board of Education on January 29th, institute instructor's certificates were issued to the following persons: W. J. Mc-Laughlin, '84, Bern; M. A. Carleton, '87; Bertha Bacheller, '88, Lyons; John Davis, '90, Emporia; Ben Skinner, '91, Fairview; E. B. Bacheller, Third-year in 1884-5, Emporia; Lyman Harford, Third-year in 1885-6, Manhattan; W. H. Phipps, student in 1890-1, Chapman.

COLLEGE ORGANIZATIONS

Student Editors.-B. H. Pugh, F. C. Sears, May Secrest,

Scientific Club.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lott e J. Short; Treasurer, F. A. Mariatt. Meets on the fourth Friday evening of each month in Chemical

Webster Society.—President, F. C. Sears; Vice-President, E. W Reed; Recording Secretary, R. C. Harner; Corresponding Secretary, E. M. S. Curtis; Treasurer, F. W. Ames; Critic, L. S. Harner; Marshal, T. W. Morse.

Alpha Beta Society.—President, May Secrest; Vice President, J. B. Thoburn; Recording Secretary, C. H. Thompson; Corresponding Secretary, Ivy Harner; Treasurer, Fred Hulse; Critic, Grace Clark; Marshal, Stella Kimball.

Hamilton Society.—President. G. W. Wildin: Vice-President, J. H. Persinger; Recording Secretary, L. Olmstead; Corresponding Secretary, C. R. Hutchings; Treasurer, W. O. Staver; Critic, A. D. Rice; Marshal, R. B. Apbott.

Ionian Society.—President, Ora Wells; Vice-President. Mary Lyman; Recording Secretary, Harriet Dodson; Corresponding Secretary, Elsie Crump; Treasurer, Bertha J. Spohr; Critic, Ef-fie Gilstrap; Marshal, Fannie Cress; Directors, Ora Wells, Maude Knickerbocker, Phœbe Turner.

February 5th.

Immediately after the lecture by Pres. Fairchild, the Ionians repaired to their pleasant little hall up near the roof, and were called to order by Pres. Wells. Singing, devotion, and roll call. The first on the programme was a vocal duet by Fannie and Verta Cress followed by a declamation by Olga Huber. The Oracle was presented by Daisy Day. It contained many interesting articles, some of which were "The Sensible Girl"," Grandmother's Story,, (poetry), "Independent Thinking", besides the usual number of we hear advertisements. A vocal so.o by Rena Helder was much enjoyed by all. The discussion was opened by Susie Hall. The question being "Are Americans Original?" This was discussed by several members of the society, after which was an instrumental solo by Laura McKeen. The news girl, Lillian Oldham, presented the news of the week. The programme was closed by a medley by Misses Cress, Pape, Selby, and Walters. After the report of com nittees and Critic, read ing of minutes and roll call, the Society adjourned. E. C:

February 5th.

President Secrest called the Alpha Betas to order at the usual time, and the Misses Palmer opened the programme by a du et, with E. Mercer at the organ. Grace Clark then led in devotion. 'Old Things and New" was the title of a very interesting selection read by Kate Oldham. G. L. Clothier then delivered an oration on "True and False Science," in which he showed in a clear and forcible manner the difference between the two The question, "Resolved, That our present method of extemporaneous speaking should be abolished," was argued on the affirmative by E. J. Abell and H. R. Miller, and jon the negative by C. H. Thompson and G. D. Hulett. The affirmative stated the object of extemporaneous speaking to be for the speaker to learn to speak intelligently, to stick to his subject, and to interest and instruct his audience. If these were accomplished, then our extemporaneous speaking might be called a success, but as it is, something that would do more should be put in its place. The negutive argued that since the

questions which were discussed in extemporaneous speaking were prepared by three competent persons, and covered all subjects of general interest, it was of great benefit not only to the one who discussed the question, but those hearing it. The art of speaking intelligently and without preparation is one worth striving for, and nowhere will we find a better place for drill than in Society work. The Judges, W. Harling, C. C. Smith, aid D. Timbers, decided two to one in favor of the negative. Birdie Secrest then presented a model edition of the Gleaner, which was followed by a short recess, after which came the usual round of business.

The Hamilton Society was called to order by President Wildin. Although the evening was rainy, a large number were present to answer to roll call. Prayer was offered by J. L. McDowell, after which the society listened to a declamation, "Is the War Inevitable?" by Geo. Doll. A well written essay was next presented by C. C. Towner, in which he showed the effects of alchohol upon the physical system and upon the intellect. Debate,

"Is city life more favorable to social morality than country life?" The affirmative was argued by Messrs. W. J. Yeoman and Conrad, in which they compared city and country life, and showed the need of city to bring people in contrast with each other, so that they might learn how to avoid the evils of society, In arguing the negative, Messrs. Rokes and Painter state why country life is better to develop sound character. They gave illustrations of great men who were raised in the country, and how the character developed in the country followed them through life.

I. C. Gall next gave us his views of a course of study in an oration. Following this was a well selected song by G. G. Boardman. After recess, the evening was spent with society business, which fully occupied the time until adjournment.

February 6th. The Websters were called to order promptly at 7:30, President Sears in the chair. B. F. S. Royer led the Society in devotion. Roll-call found a large number of loyal members in their seats, notwithstanding the unpleasant weather. The programme was opened by debate on the question, "Resolved, That the United States would be justified in declaring war against Chili." The affirmative was presented by C. F. Pfuetze and M. W. McCrea, and the negative by W. H. Stewart and E. H. Freeman. The affirmative dwelt upon the great insult to the American flag; that the government officials of Chili participated in the murder of Americans, not an assault upon the individuals only, but upon the navy uniforms-symbols of the United States. They thought the expense would not be great, on account of the probable short duration of such a war; but even if it should be, an item of expense should not enter into consideration when honor and protection to human life are at stake. In answering the argument of the negative that a large nation like the United States would be disgraced in going to war with a small one like Chili, they compared the latter to a bee on the back of one's neck, and that its diminutive size did not entitle it to use its method of insult unmolested. The negative thought that no nation should resort to war until every other means of settlement had been exhausted; that war was a barbarous custom which civilized nations ought to scorn; that the cost of the war would far exceed the benefits and that it was a small matter to go to war about. The United States would be belittled in the eyes of other nations by taking advantage of her superior force to cripple Chili. The negative was awarded the decision of the Society in having answered the arguments brought forward by the affirmative. The Society was next favored by an essay on "The Cocoanut Tree," by G. W. Crouch, in which the author gave a description of the growth and fruit of the plant. A.C. Cuttler read a selection written by Thomas Carlyle. G. W. Ginter, true to his educational advancement in this College, discussed an agricultural topic, "Improvement of Cattle." He traced the history of this improvement from the earliest times, and his handling the subject showed that he was making excellent progress under the efficient tutorship of Professor Georgeson. H. G. Gilkerson confined his remarks to our coast defences and their needs. C. E. Shoup presented an interesting collection of news, which was followed by the Critic's report and adjournment. M. F. H., Cor. Sec. pro tem.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alfha Bela, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening

of each month. Every Friday evening a students' prayer-meeting is held in a College society room, ied by a member of the Faculty. On the Sabbath, students are expected to attend service at least once in the different churches of the city.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly

meetings at the College. Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Chancellor J. H. Canfield, of the Nebraska State University, is billed for a lecture at the Kansas State University, to be given sometime in March.

The McPherson Educator and Companion, the organ of McPherson College, has a new dress and a new heading. We like the dress well enough, but cannot say as much of the heading.

The two Washburn College papers, the weekly Reporter and the monthly Argo, have been consolidated. The combination calls itself the Argo-Reporter. It is a neat-looking and well-written little magazine.

Number 1, Vol. 1, of the *University Informer*, the new organ of Campbell University at Holton, has reached our reading table. It is a semi-monthly of the size of the INDUSTRIALIST, and is well filled with local matter. Subscription price, 50 cts.

Congressman Broderick has the appointment this year of one cadet to West Point, and already there are over thirty applications. He has decided to settle the matter by competitive examination, to be held at Atchison some time in June or July.

While many students undoubtedly injure themselves by too close application and insufficient exercise, there is another extreme. One would think from the matter in some newspapers under the head of college news that the principal studies were foot ball and boating, with now and then an oratorical contest thrown in for recreation.—Holton Informer.

Prof. F. W. Cragin, formerly of Washburn College, Topeka, who for some time has been connected with the Colorado College at Colorado Springs, has accepted the position of second Geologist to the Texas State Geological Survey, at a salary of \$1,800. He will return to Colorado Springs in September, to be in the College for nine months. The new position gives Prof. Cragin a better opportunity to carry on his special work, as his field will be that of pareontology. Prof. Cragin's family will move to Austin.

The Courier, from the State University, has become a boaster of the first class, and from the tone of its matter one would be led to suppose that the State University was the only institution of any importance in the State, or even in the West.—Salina Wesleyan Advance. The Wesleyan Advance takes the Courier to task for being a boaster, and asks us to be more liberal by acknowledging the peers of our institution in our State. Our Methodist friend mistakes our enthusiasm for boastfulness, and as for our peers, we have none within a circle of five hundred miles.— University Courier.

A Kansas City, Ks., news item says: Professor L. L. Hanks and the chemistry class from the high school made a trip to Argentine and were shown through the smelter. The visit was made for the purpose of witnessing the practical chemical tests made in handling the ore. The company furnished them I. K. Fuhrman for a guide, and he showed the visitors every process to which the ores are subjected in the smelter, starting them in at the place where the ore is crushed, and following closely until it is refined. The visit was a pleasant one, and all were delighted with it. It gave the members of the class many new ideas of practical studies, which will be of value to them in their studies.

Ex-governor Glick of Kansas read a valuable paper on public highways before the State Board of Agriculture at its recent meeting. It ought to be distributed broadcast among the farmers of the State. A study of it would broaden their views on a subject that they now consider of trifling importance. Money spent on good roads is well invested, and brings quick returns. Poor roads increase the distance to market. They necessitate smaller loads, and longer time, cause wear and tear of wagon and harness, and kill stock. Good roads in a great measure save all this loss, and besides add the element of comfort to a journey to market. The ex-Governor has inaugurated a movement which ought to be fostered. Its accomplishment would result in more good to the farmers than all the "stay laws" and "anti-trust laws' that demagogues could devise. - Kansas City Star.

The Karsas State Historical Library already exceeds that of any other in this country as to the

number of its volumes of newspapers. No other li rary in any State contains so many volumes of its own State newspapers as has our own. We number now 8,412 volumes of Kansas newspapers and periodicals. These are nearly all volumes of daily and weekly newspapers. They contain a record of the history of Kansas through all the years of our territorial and State existence-thirtyseven years, from 1854 to 1892. The number of newspapers and periodicals now being published in Kansas is 752. Of these, 643 are weeklies, 38 dailies, 55 monthlies, I semi-weekly, 4 semimonthlies, 3 quarterlies, and 8 occasionals. The total of the library at the present time is as follows: namely, 12,950 bound volumes, 40,152 unbound volumes and pamphlets, and 11,414 bound newspaper files and volumes of periodicals—in all, 64,-516 volumes.

In order to assist in cooling down the superheated atmosphere of the great western loci of literary lore that took part in the oratorical racket at Topeka last week, we humbly invite the participants and their tutors to a few excerpts from an article in the *Hesperian*, by Geo. W. Danvers, an alumnus of the State University of Nebraska:—

"The cultured portion of the public throughout the State classes inter-collegiate oratory with tinhorn tootings, statue paintings, foot-ball games, and other 'periodical outbreaks of general cussedness.' We, out here in the State, don't care a continental whether the University loses or wins. What we do deplore is to see the University, with its reputation for earnest, business-like work, having anything to do with the insincere, unbusinesslike foolishness of inter-collegiate oratorical contests. There is considerable fun, the writer admits, in going off somewhere on a train, tooting your horns, and yelling your University yell and rattlebrained class yells. But such a procedure should be characteristic of ball-games, and not of oratory. Between the two there is a great difference. Football comes under the domain of sport. People look upon it as sport. It affects only the sporting side of university life. Oratory comes under the domain of business, just as do history, chemistry, or botany. It affects the educational reputation of the university, the faculty, the curriculum, the thoroughness of the work done."

With regard to the benefit to the contestants, Mr. Danvers says: "The undersigned had the misfortune (seriously) to be your second representative in the memorable Crete contest. He worked at least nine months on his speech. Mr. Fogarty, your third representative, worked, to the writer's positive knowledge, three months on his, and more for all the writer knows to the contrary. Mr. Chappell, your fourth and last representative, worked on his speech for over twelve months."

Further on, Mr. Danvers says: "Such oratory is not pursued calmly and quietly like history, botany, or engineering. Its main purpose seems to be to afford some one an opportunity for displaying himself amid apllause and blue lights and to ward off consumption by furnishing vigorous lung exercise to the students in general.

"One who hears much of this cannot but be struck with the great similarity in all college orations. How they reek with conventionalities! Nine out ten refer in some way to the American eagle, and the stars and stripes (whoop!), the Mayflower, the French Revolution, Egypt, as Church would put it, cut a pretty wide swath. In college oratory, all roads lead to Rome. If there ever was a college orator who meant what he said in his oration, the writer will gladly pay his railroad expenses for the pleasure of seeing him."

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S. W. ¼ of S. W. ¼ and S. ½ of N. W. ¼ of S. W. ¼ of Sec. 4-10-9, Pottawatomie County, containing 60 acres; for \$100 cash, subject to mortgage of \$550 and taxes of 1891, if taken right away. This is a great bargain. Title perfect. Address,

American Bank B'ld'g, Kansas City, Missouri.

Sunshine is plenty; why need we be stingy with it? A correspondent of the Country Gentleman says: "There is one thing that no stable I ever heard of furnishes in sufficient abundance, and that is sunshine. How the animals love it! They often move about in their stalls so that the stream through the window may fall upon them." The house and its inmates need sunlight.

I am glad to read that the use of the overcheck abomination has been prohibited by the Queen of England among her horses. As nothing else seems to put down this great cruelty, it seems to me that the law of the country should do so.—

S. M. Palmer, in New York Tribune.

MANHATTAN ADVERTISEMENTS.

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All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

NOTES FROM THE GROUNDS.

BY PROF. S. C. MASON.

ANSAS people are not permitted to boast of A sub-tropical climate for any great length of time without a sharp reminder from our neighbors on the north. During the year 1891, in which the mercury did not touch zero point, we enjoyed so much of bloom and fruit that California and Florida really seemed scarcely worth bothering about to a man who could just as well stay in Kansas. Peaches of the most tender variety bloomed and set fruit in abundance. Flowering shrubs that had perfected only a few scattering blossoms since their introduction to this climate, bloomed as they were wont to do in their native haunts. Even a stray Magnolia, perhaps the only specimen which any one has had the courage to plant this far out on the desert, rewarded its owner with several of those beautiful blossoms.

When, a few weeks ago, the mercury quietly slipped down to 27° below zero, the most sanguine doubtless gave up the idea of home-grown peaches this year; but probably few appreciate the difference in the length of the list of our reliable ornamental shrubs which this additional 27 degrees of cold will make.

In the College grounds and arboretum rows many things are kept which are known to be more or less tender and uncertain, yet which repay cultivation for the occasional crop of flowers and the means of study and comparison which they afford. The owner of a city lot or country front yard will hardly care to give room to anything not reasonably sure of paying an annual dividend.

I cannot attempt in this list any recommendation of hardy sorts, but will give those which, after several years of trial, have shown that they will not endure cold of much below zero.

Our specimen of Paulownia, after coaxing through three winters by wrapping up the trunk with hay, set a large number of blossom buds last fall, and with another mild winter would have given us a sight of those rare flowers. Now all the later growth is killed, and probably the whole tree to the ground.

Of bush honeysuckle, Lonicera, L. fragrantissima, has again killed clear to the ground, both on high ground and on the bottom land. Forsythias, after blooming heavily last year, the first full bloom in five years, will now have to start again from the roots. Weigelias of several species are killed clear back. Dentzias, both D. scabra and D. gracilis, are in the same condition. handsome dark-leaved California privet, as it is called in many catalogues, Ligustrum buxifolium, makes the finest growth of any of the genus, but several years' trial have proved that it will not escape severe killing back if the temperature falls below zero. Eleagnus longipes is much lauded by certain dealers having it for sale, but our stock of it is now dead to the ground for the third time in five years. Two other species have shared the same fate; and three species of Cotoneaster, growing near, will furnish a similar contribution to the brush pile. Cytisus Laburnum, or Golden Chain, C. capitatus, and Indigofer a dosua are three leguminous shrubs that are sure to be cut back with every severe winter, though the two last named are worth a place for the handsome growth from the roots. Few members of the heath family would be expected to thrive during our dry hot summers, but Clethra alnifolia made a good growth and flowered freely during the past summer. Only the roots are now alive.

How many more of our favorites will be found to have been more or less injured only open spring will show, but doubtless much more harm has been done than can be detected at present. .

WORK AND WORRY.

BY ONIE HULETT, '93.

O much to do! so much to do! is the cry heard on every hand and from all classes of people. In this busy world and especially in our own active America, every one goes hurrying, worrying through life as though his hope of eternity itself depended upon the quantity of the work he does, regardless of its quality.

We students are especially liable to fall into this habit of hurrying through our work, complaining of lack of time, and in that way losing as much of that precious article as it would take, if properly used, to do all our work well. Then when review time comes everything must be learned over again instead of simply received, collected, and classified. As a consequence, much midnight oil will be burned, much nervous energy unnecessarily expended, only to be followed, perhaps, by a failure.

Henry Ward Beecher says: "It is not work that kills men. It is worry. It is not revolution that destroys the machine, but friction."

It is true that we all have a great deal of work to do; but that is what we are here for, and if we are not kept reasonably busy, then something must be wrong. Every one of us has his allotted work to do in the world, and—what is just as important to remember—he has his allotted time to do it in.

It has been said that Longfellow must have had the "blues" when he wrote-

"Labor with what zeal we will, Something still remains undone: Something uncompleted still Waits the rising of the sun."

It is true there is always something to be completed by some one; yet let us remember there comes a time when our work on earth is done. If each duty as it presents itself is faithfully performed, then in the evening of life, we can review our work and say with satisfaction, "It is finished."

RELATION OF THE EXPERIMENT STATION TO THE FARMERS. BY H. A. DARNELL, '92.

THERE is a feeling sometimes expressed among farmers that the Experiment Station work is of no value to them in that it is, as they put it, impracticable. This is because, as they say, the Government furnishes the money, and the liberality with which it is expended in each experiment could not be afforded by the farmers, and hence the results must be valueless to them.

Now, I believe the experiments are practical, and if judged properly are very beneficial to almost every agriculturist. It is very true that no farmer could afford the outlay per acre which is made at the station. That, it seems to me, is just where this work is practical. It is not supposed by the officers of the station that the farmers will undertake to conduct such experiments, but rather profit by the results obtained here.

If there is anything that will help a farmer to be successful, year after year, in his fields, orchard, and garden, it is to have a number of varieties each of grain, fruit, or garden vegetables, so that in case one sort of either fails something else will take its place. Either class of animals - horses, cattle, sheep, or swine-requires certain foods peculiar to itself. Now, to find a variety of fodders or grains which are best suited to your season and soil, your animals and your farm, is not an easy task. For instance, a farmer cannot afford to grow a large variety of grapes to find that variety which suits his idea of flavor, and will pass safely through a dry summer or cold winter. So in raising corn. Kansas corn each year is a great prospect—seldom fulfilled. The trouble is the midsummer droutin, which has come to be one of the seasons. But, since corn must be the staple crop, let us have one of three varieties: something that will stand a drouth; something which, planted early, matures early; or something which will mature very late. There are an indefinite number of varieties of corn. To experiment with one variety at a time would scarcely be an experiment; yet, how many farmers could handle more? Remember that to make an experiment, perfect data as to the seed, condition of the soil at time of planting, peculiarities of the season, times cultivated and when, and conditions as to the moisture of the soil when stirred, the time of flowering, maturity, and the yield, must all be accurately kept. Accidental results, from which so many farmers draw conclusions, are not to be relied upon. no denout survival lo

All this takes time and careful attention, and, as they will admit, the farmers' time is taken up by the "realities" of their occupation. Anything which draws them away from the main crop must be at an expense out of proportion to the general profits. Stations were established to insure properly conducted experiments, partly, and partly to save the proportionally greater expense which results from trials made by many individuals. It was not supposed that these stations would ever be a source of revenue, but a source of information; and, if properly regarded as such, no one will doubt their being practical.

VALUE IN MONEY.

BY F. S. LITTLE, '92.

IN studying the principles of the money question, the student soon reaches the conclusion that money is used both as a standard of value and as a medium of exchange.

The first money used by man was only a medium of exchange or barter. The buyer would weigh out a certain amount of his metal, and trade for it. When these metals were given a definite size and weight, so that their value was definitely known to the exchangers, the coin thus made at once became a standard of value by which the value of all other articles was measured.

Today that is the second great use of money. Thus, in all our computations of value, we figure in dollars and cents. In all our exchanges with distant places, we use drafts, etc., expressing the value in the standard coin unit. Many of our current debts are settled by barter, but the value is always expressed in money units. The statement of the clearing-house of New York for Tuesday, the second of February, shows that 200 million dollars of business was transacted with but 8 millions cash, 96 per cent being done by means of checks, drafts, etc.

This value of the standard may be expressed in a ratio between the coin and other commodities. In fact, the word value, when used with reference to exchange, means simply a ratio. When we say that an animal is worth \$50, we mean that its value, or ratio of worth, as compared with the dollar, is 50. We thus see that value is only comparative.

Its laws, however, are as rigid as any other natural law of trade. No nation can directly change the value of any commodity. Congress can adopt a unit of a given weight of gold as a standard having the value of the gold contained, but it cannot directly change the value of the given weight. As soon as Congress decides upon a weight of metal, just so soon does a certain portion of every article which has any value become equal to it, and nothing but the laws of trade can effect a change.

Congress indirectly regulates the value of a coin: first, by regulating the amount of material in the

coin; or second, by fixing its relation to some other coin. Our seventy cents' worth of value in the silver dollar has a definite relation to the gold dollar. The United States Treasurer is required by law to pay twenty-five and a fraction grains of gold for each silver dollar when presented according to law, so that our silver dollar is both seventy cents value and a promise to pay that odd thirty cents. If gold should fall in value, the value of the silver dollar would fall with it until the intrinsic value would be reached, if such a fall were possible.

From these facts, we may draw the conclusions that a standard of value must itself have intrinsic value equal to its face; and in order to have a material represent more than its intrinsic value, that value must be computed upon the standard. Such material may or may not be interchangeable with the standard; but the result of its not being interchangeable is easily predicted and heavily felt.

SOME ROAD NOTES

BY SUPT. J. S C. THOMPSON.

THE agitation of the road question is contintinued with unabated vigor, and will no doubt lead to radical changes in the road laws of many States. There ought to be further discussion of this subject. It is one in which everybody is interested. The improvement of our highways might profitably be made a leading topic of every gathering in the State looking to the advancement of the people. Every country school district should have its champions of road reform to see that the merits of the question are duly presented before the literary society. As for the newspapers, they have for a year past done much toward arousing a healthy public sentiment for road improvement, and will do more as opportunity offers.

While methods of construction are important, and at all times worthy of discussion, the paramount question at present is, How can we secure better roads? Shall an effort be made to have the Government or the State make appropriations for this purpose, or authorize the issuance of bonds by township or county? The New York Legislature passed a law in 1890, entitled "An act to provide for the public roads in certain counties, as county roads." It authorizes the County Commissioners to assume control of local roads for the purpose of maintaining and improving them, and to borrow money under certain conditions (not mentioned) to prosecute the work. We do know that the present crude and wasteful system, or lack of system, may be greatly improved by almost any change, and will heartily welcome any plan looking towards its accomplishment.

Under existing conditions, we are confronted with the spectacle of a farmer paying far more for hauling his grain to the railroad station, one to five miles or more distant, than the railroad company would charge him for hauling the same quantity. The following figures from the Farm and Fireside may be taken as an illustration: "It costs a railroad about a half cent to carry a ton of wheat a mile. A farmer living five miles from a railroad station can haul per day two loads of one ton each over the average country road. Of course, he could easily naul twice as much over a firstclass road, but we are speaking now of the average common road, with which the majority of farmers are cursed. Estimating the pay for man and team at three dollars per day, would give the cost of hauling one ton five miles one dollar and fifty cents, or thirty cents per mile, just sixty times as much as by rail."

The farmers are slow to learn; that is, they are slow to come forward and step into the ranks of progress; but those who do come forward give immediate evidence of laudable improvement. Attending the institutes has this effect.—Grange Homes.

INTENSIVE FARMING PAYS.

Lately, I have been more than ever impressed with the difference between good and poor farming. One farmer recently visited sells milk at three cents per quart. He feeds in the good oldfashioned way, feeds only bran and but little of that, and has never tried ensilage. He is milking ten or twelve cows, and cannot find sale for all they produce. Another farmer, making milk a specialty, gets eight cents a quart, net, for his milk, and a correspondingly high price for cream. He is milking 150 cows, and told me that he needed 600 quarts of milk more per day than his cows gave. He feeds ensilage the year round, and his cows get all the corn meal, bran, and ground oats they want. A lady can walk through his stable any time without having to raise her skirts, and his cows are groomed as nicely as carriage horses. Milk producing pays him. He gets high prices for doing good work and turning out a high quality of goods. The other man has to take low prices and poor markets, simply because he does cheap work and gives cheap care.

A neighbor was recently offered sixty cents per dozen for eggs the year round by a leading hotel in New York City. Why? Simply because he has the best chickens that money can buy, gives them the best of care, and could guarantee to deliver eggs the day they were laid in quantities wanted. Compare this with ordinary prices, and see if good work pays.

I have seen seed corn bring \$2.00 per bushel in Kansas when market corn was selling for twenty-five cents. What was the difference? A little better seed for the original crop, and a little care in sorting the product.

If Kansas farmers would take the pains with their work that Eastern farmers are obliged to take, they would largely increase the number of abandoned Eastern farms. I am managing a dairy farm. Feed costs per ton-corn meal, \$30; bran, \$25; oil meal, \$31; and hay, \$15. Cattle have to be fed at least seven months in the year, and the land is so poor that it needs manure to produce oats and grass. And yet, butter-making pays us well. Only pure-bred cows, selected for the richness of their milk, are kept. All grain fed is as sweet and clean as that used in my own house. The cows are curried daily, and kept in a warm stable. All the butter is put up in halfpound prints, stamped with an artistic pattern, and wrapped in parchment paper. Butter can be shipped in refrigerator cars from Kansas to New York for less than two cents per pound, and arrive here in as good shape as it left Kansas. Suppose Kansas dairymen would keep as good cows as we do, be as careful about feed, care in making and packing butter as we are compelled to be.

With your cheap feed, short winters, and rich soil, how long would it take you to starve us to death?

I went to a New York City sales stable about a month ago to buy a farm team. I was offered teams as low as \$150, while a heavy, well-built Percehron team that I wanted could not be bought for less than \$600. How much difference was there in the cost of raising the two teams? How much more does a first-class Percheron colt eat than a scrub colt worth one-fourth as much?

The majority of farmers are daily demonstrating that there is little or no profit in ordinary or poor farming. The few that are turning out products marked "extra choice" are just as surely proving that their methods pay and pay well.—H. M. Cottrell, '84, in Kansas Weekly Capital. Rhinecliff, N. Y.

An exchange says: "Most men feel laudable pride in a small, well cultivated farm, whether for fruit or live stock. But a large, rough farm, with barren hills, a poor soil, lean cows, dilapidated fences, unpainted buildings, and a dooryard full of weeds—who is happy there?"

A successful farmer must give the same close attention to his business in all its details that the successful railroad man or manufacturer gives to his business; the hopes of the farmer lie not so much in legislation as in himself; as railroad managers and manufacturers so endeavor to conduct their business as to save in small matters, so should the farmer conduct his small matters and look after small details, the aggregates will take care of themselves.—A. R. Eastman.

Fall Term—September 10th to December 18th
Winter Term—January 5th to March 25th.
Spring Term—March 28th to June 8th.
June 8th, Commencement.
1892-93.
Fall Term—September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

There will be no exercises at the Coilege on the 22nd instant.

New eight-day clocks have been put into the Printing Office and the Iron Shop.

Professors Failyer, Popenoe, and Hitchcock take part in the Oskaloosa Institute this week.

Mr. A. C. Betts, of Hillsdale, Mich., was an interested visitor at the College on Thursday.

Mr. C. H. Kirshner, of Kansas City, Mo., called upon the President's family Thursday afternoon.

The Chemical Department has received some aluminum sheets and wire for use in the study of metals.

Dr. Mayo will visit Garden City and Dodge City next week to present papers before Farmers' Institutes.

A new work table, with a large number of selflocking drawers, finds a place in the Chemical Laboratory.

Assistant Horticulturist Mason was elected President of the Manhattan Horticultural Society at the last meeting.

Secretary Graham was obliged, on account of illness, to cancel an engagement to lecture at Winchester, Jefferson County.

Professors Olin, Kedzie, and Mason will represent the College in a Farmers' Institute to be held at Osborne February 25th and 26th.

Prof. White conducted a general history exercise at the meeting of the Riley County Teachers' Association at Leonardville on Saturday last.

An Institute has been provided for at Constant, Cowley County, on the 3rd and 4th of March, with Professors Walters, Graham, and Georgeson as College representatives.

Copy is being prepared for the new Catalogue, soon to be issued. It will contain a number of new illustrations, among which will be pictures of the vegetable gardens, the College herd, and the interior of the new iron shop.

Prof. Hood is developing considerable ability as a financier, having recently bargained for "three hundred dollars' worth of molding patterns for \$7." These patterns will be of great value to the Department, since they answer every purpose and save the expense of manufacturing.

The College representatives at the Bluff City Institute enjoyed a brief visit from J. G. Harbord, '86, of the 5th Cavalry, who is now located at Wichita on recruiting service. Lieut. Harbord reports himself as ascending in his work and well pleased with military life in general.

The term social last evening was an occasion of much enjoyment and recreation to Faculty and students. Entertainment was furnished by the "Peak Sisters," with their abundance of talent. Interspersed with their programme, the College Orchestra and the Cadet Band rendered some of their choice selections.

The second and last appearance of the First Division of the Fourth-year class occurred yesterday, as follows: Grace Clark, "Women and Literature;" G. L. Clothier, "Money, and Some Mistakes in the Use of the Term;" L. C. Criner, "A Law of Nature;" Elizabeth Edwards, "Women as Architects;" H. Darnell, "A Crisis in Our National Life."

Profs. Walters, Graham, and Georgeson report the Farmers' Institute held at Bluff City last week as among the best participated in by the College. Harper County farmers are a wide-awake class who are keenly alive to the important questions of the day upon farm and home subjects, and the discus-

sions in the Lastitute were full of interest from the beginning. This county is very largely devoted to wheat raising and fruit growing, and special interest was developed in the work of our Experiment Station along these lines. Many farmers from other parts of the country were present, and a permanent County Institute was organized. Editor Geo. W. Moffet and wife, of the Anthony Republican, were present, and promise a good write-up of the Institute.

GRADUATES AND STUDENTS

I. C. Gall, First-year, drop out to go to work.

Pearl Dow, '91, assists her father in the Manhattan postoffice.

Nellie Stewart, Second-year, drops out and returns to her home in Olsburg.

Florence Rasmussen, a First-year student, drops out on account of failing health.

H. W. Mattoon, Second-year, is compelled to drop all studies on account of ill health.

C. A. Latham, Second-year in 1884-5, is now

in the United States Mail Service at Wichita.

M. V. Hester, Third-year, drops out of Col-

lege to work on the home farm near Haviland, Kiowa County.

John U. Higinbotham ['86] and Miss Bernie

John U. Higinbotham ['86] and Miss Bernie Mitchell were married in Chicago, Tuesday, February 16th.—Mercury.

Joseph Thoburn, Third-year student, writes to the Nationalist criticising the personnel of the "Young Republican Club."

Gertrude Coburn and P. S. Creager, '91, write for the current member of the Kansas Capital—the one of "A New Kitchen Tool," the other of "A Hot-Bed for the Farmer."

C. A. Dow, once a member of the class of '77, is now a prosperous druggist at Bluff City. He was glad to renew old acquaintance through the professors at the Institute, and to aid in its success.

S. V. Hogbin, student in the fall term, writes from Curtisville, Mass., that he is at work upon the building of a \$120,000 house located upon the farm where the father of President Fairchild was brought up.

G. V. Johnson, '91, made a short call on College friends yesterday afternoon on his return from Kansas City, where he purchased an outfit for a job printing office which he and H. B. Gilstrap, '91, purpose to open in Chandler, Oklahoma, about March 1st.

FOR SALE.

S. W. ¼ of S. W. ¼ and S. ½ of N. W. ¼ of S. W. ¼ of Sec. 4-10-9, Pottawatomie County, containing 60 acres; for \$100 cash, subject to mortgage of \$550 and taxes of 1891, if taken right away. This is a great bargain. Title perfect. Address,

American Bank B'ld'g, Kansas City, Missouri.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. Nootherrules of personal conduct are announced.

Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the

Every Friday, at 1:30 P. M., the whole body of students gather for a lacture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth year classes. Once a week all the classes meet, in their class rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alfha Beta, open to both sexes, and the lonian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

Every Friday evening a students' prayer-meeting is held in a College society room, led by a member of the Faculty. On the Sabbath, students are expected to attend service at least once in the different churches of the city.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College.

Once in each term the College Hall is opened for a social gather mg of Faculty and students, in which music, literary exercises, and triendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

COLLEGE ORGANIZATIONS

Student Editors.-B. H. Pugh, F. C. Sears, May Secrest,

Scientific Club.—President, S. C. Mason; Vice President, J. T. Willard; Secretary, Lott e J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

Webster Society.—President, F. C. Sears; Vice-President, E. W. Reed; Recording Secretary, R. C. Harner; Corresponding Secretary, E. M. S. Curtis; Treasurer, F. W. Ames; Critic, L. S. Harner; Marshal, T. W. Morse.

Alpha Beta Society.—President, May Secrest; Vice President, J. B. Thoburn; Recording Secretary. C. H. Thompson; Corresponding Secretary, Ivy Harner; Treasurer, Fred Hulse; Critic, Grace Clark; Marshal, Stella Kimball.

Hamilton Society.—President G. W. Wildin: Vice-President, J. H. Persinger; Recording Secretary, L. Olustead; Corresponding Secretary, C. R. Hutchings; Treasurer, W. O. Staver; Critic, A. D. Rice; Marshal, R. B. Abbott.

Ionian Society.—President, Ora Wells; Vice-President. Mary Lyman; Recording Secretary, Harriet Dodson; Corresponding Secretary, Elsie Crump; Treasurer, Bertha J Spohr; Critic, Ef fle Gilstrap; Marshal, Fannie Cress; Directors, Ora Wells Maude Knickerbocker, Phæbe Turner

February 12th.

Immediately after the Chapel exercises President Secrest called the Alpha Beta's and visitors together. The program was opened by a quartet, Kate Oldham, Nora Fryhofer, G. L. Clothier, and G. W. Fryhofer. J. E. Thackrey offered prayer. Hugo Halstead told in a declamation of Will Carlton's experience with a lightning rod dispenser. J. E. Mercer read an essay describing the manufacture of paper. The question, "Resolved That science has done more for the world than agriculture," was argued on the affirmative by J. B. Thoburn and W. C. Mead, on the negative by R. A. McIllvaine and Maggie Stewart. The Judges rendered no decision. F. Hulse presented an interesting Gleaner. Recess. Music, a duet by Messrs. Clothier and Fryhofer. News Report. Niscellaneous buisness. I. F. H.

February 13th. Society called to order by President Wildin. After opening exercises and reading of the minutes, the programme of the evening was taken up. A declamation by Mr. Halderman was well delivered and appreciated by all. In the debate, "Are inventions a benefit to the laboring classes?" Messrs. Johnson and Haller argued that men could not advance in education or skill without inventions. Printing brings education within reach of the poor as well as the rich. Inventions for use of laboring classes, as sewing machines, washing machines, threshing machines, mowers, reapers, etc., have benefitted by doing more work in a given time than could be done by hand. Processes of making sugar, clothing. etc., have made these articles cheaper. Inventions make labor more desirable, and create new fields of labor; also encourage learning and education in all branches. Messrs. Frowe and Garrett, on the negative, thought that inventions were made generally by poor men, and the rich buy these for little or nothing; from the inventors, who are forced to sell them. They are then placed in mills and factories, and laborers thrown out of employment. Inventious throw out of employment men who have spent years in learning a trade; and as they are unskilled in anything else, they are almost helpless and, hence, crowd other departments with unskilled labor, or else turn tramps and beggars. Judges. Hartley, Smith, and Downing, decided in favor of the negative. After recess, E M. Blachley, committee on music, asked that the Society help him sing "America." It was sung and roundly cheered. W. O. Staver next presented the Recorder. It was a good issue, and Mr. Staver is to be congratulated on his success. After spending so as time in unfinished and C. R. H. new business, the Society adjourned.

February 13th. At 7:30, President Sears called the Society to order. Prayer was offered by M. F. Hulett. Minutes of last meeting were read and adopted. We were first entertained by a declamation, entitled "Cheek," by W. J. Rholes. The debute was on the question, "Resolved, That secret societies are a detriment to a free government." C. Cole, in arguing the affirmative, first stated the qualifications necessary to joining a secret society. Any man who cannot take an oath to keep the secrets of the organization is debarred from joining. Furthermore, he is sworn to give political preferment to office to his associate members. The influence of the secret organizations is carried into trials. When members were held for trial, and when members we cou the jury, a verdict of "not guilty" was brought in, thus defeating the ends of justice and Article VI. of the Amen iments to the Constitution, which insures freedom of trial to citizens. The negative, represented by B. F. S. Royer, said that secret societies had existed since three thousand years before Christ, and we have no evidence of their doing any harm to the Government. Most secret societies do not require a man to take a pledge to give political preferment to their members. As most secret societies are formed for reform, they do a good deal of good in the politics of a nation. H. G. Pope, in further arguing the affirmative, brought up the murder of Morgan. The murderers of Morgan could not be brought to trial on account of the officers being Masons. The Duke of Orleans was Grand Master of a Masonic Lodge during the French Revolution, and he ordered that murder be the order of the day, causing life and property to be taken through his lodge. T. W. Morse, in further arguing the negative, stated that the Masons stood pre-eminently as advancers of civilization. The societies are composed of men of average ability and intelligence, and the fact that they belong to a good lodge is a good recommendation to office. All kindred organizations of the Masons do much benefit in taking care of the sick and the orphans. The G. A. R. has for its objects the taking care of its members, and they have unswerving filelity in the Government. The work of the insurance companies, which are in almost every secret organization, is very beneficial. Mr. Cole closed the argument on the affirmative by stating that the motives of the secret societies were purely selfish, aiding only their own members. In one case where they had \$5,000 to distribute as charity, it took \$3000 to distribute \$2,000. Inferior men are placed in office, who interfere with the administration of justice. Mr. Royer, in closing the argument on the negative, stated that members in joining take an oath to support their God and their country, and to promote their general welfare. To be successful in any line, there has to be some secrecy. All the political parties started from secret organizations. The nation is a secret society against every other nation, and taking societies as a whole, there is no ple ge to support a member to office. The society decided that the negative had

answered the arguments of the affirmative. F. S. Little read an interesting essay on the "Early History of Paper Money," in which he traced it from the time it was first issuel, in 1690, to the present time. S. Farman had an interesting essay on "Libby Prison." Declamation, A. F. Niemoller. J. Frost ap peared with a good number of the Reporter, the motto being particularly suggestive to Third-years. Music, H. W. Mattoon, committee. F. R. Jolly had a discussion on "College Yells;" and D. T. Davies, on the "Evils of Hunting." Th. Society adjourned at 10:30.

January 1'th. The appointed time found the hall well filled with Ionians and visitors. Among the latter we were pleased to notice members of the Webster, Hamilton, and Alpha Beta Societies. President Wells called the meeting to order. Singing, prayer, and roll call. The programme was opened by a trio "Nearer My God to Thee," by Misses Newell, Dewey, and Lyman, with Laura Day at the organ. Miss Mass, in her select reading, told the experiences of a bashful man. Anna Shipman read an essay entitled "Fourth of July Celebration," after which Ione Dewey entertained the Society with an ocarino solo, accompanied by the guitar by Alta Lee. This music was much enjoyed and was heartily enchored. The Oracle, our Society paper, was edited and read by Bertha Spohr. A song, "The Farmer Girl," was sung by a quartet, Misses Selby, Cress, Pape, and Walters Next in order was the debate, but for several reasons this was omitted from the programme. After an organ solo by Lorena Helder, Harriet Dodson gave the news of the past week. This closed the programme. The remainder of the time was spent in Society business. Under propositions for membership the name of Ollie Wilson was proposed. After roll-call with quotations, the Society adjourned.

FARM NOTES.

I have been intimately acquainted with eight farmers who quit their farms and engaged in other business with the expectation of obtaining easier and more profitable work; but all of them did so to the detriment of their pecuniary interests, and three of them, at least, to the injury of their health and the shortening of their lives.—Ohio Farmer.

By means of exposure, the average life of an implement may be shortened one-half; besides an implement left so exposed can never be worked as easily as one that has not been exposed. Rust and and decay are active agents, and in a little time entire destruction is the result. This is a waste, not only in the abridged usefulness of the implement itself, but a waste of extra animal force required in its operation.

The time approaches when the summer's hired hand must be found. It would be the part of wisdom to look about a little now and get such a man as you want even if you have to hire him at once to keep him from getting away. The alternative is to wait until work drives you and then take the first dirty, ragged, smoking, chewing, swearing scoundrel that offers. And that is another of the things that don't pay.—Kansas Capital.

It is said a young man's education is finished when he leaves school. There never was a greater fallacy. In the highest sense, education begins only when a man leaves school, college, or university. In these institutions, he learns only the use of tools. Whether he is to be educated or not is to be determined, not by knowing how to use the tools, but whether by the use of these tools he makes or mars his future development and his life work.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principal ly a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the abinty to use his chances well.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Topeka will erect a new high school building. A committee has been sent to Denver to inspect a building at that place.

Mary L. Hopper, County Superintendent of Finney county, has been adjudged insane and and sent to the asylum. Close application to work caused it.

W. S. Franklin, a Doniphan county young man who has spent a year or so in German Universities, has secured a \$2,000 position at the Iowa State University.

It is said that the speaking at the recent college oratorical contest at Topeka was not equal to that of the "Kansas day" oratorical tournament at the same place.—Kansas City Star.

The treasurer of Beth any College has been seen carrying money to the bank by the bucket fall. We were not informed as to the size of the bucket, but are aware that money on subscription has been coming in fast enough to confirm the truth of the statement.—Lindsborg News.

One of the finest specimens with which the State University has been presented lately was received last week in the shape of a genuine octopus, commonly called devilfish. It was sent from Vancouver, British Columbia, by F. R. Graham, a former resident of Lawrence. This specimen measures six feet across the arms. It was caught off the coast of Vancouver.

It is about time some sense of propriety was injected into the college boys at an oratorical contest. A howling, yelling, screeching mob of young men with tin horns is not an intellectual spectacle. It is a callow, witless performance without one redeeming trait. Better manners and less noise would help the oratorical contests.—

Topeka Daily Capital.

AN ECHO FROM THE ORATORICAL CONTEST.

Educational circles at Emporia are very much excited by the discovery that the markings of one of the judges in the State oratorical contest, which took place in Topeka last Friday, had been changed, which change resulted in giving the State Normal fourth place instead of third, to which it was entitled, and putting Emporia college in third instead of fourth. An indignation meeting was called and the college boys charged with changing the figures. This some of them admitted. However, the Normalities have sent a committee to Ottawa to see W. H. Wilson, the ex-president of the State Oratorical associaton, and to thoroughly investigate the matter. Feeling runs very high and is not confined alone to the students. Below is given the table as it was furnished to the press:-

ORATORS.	On	De.iver	y.	Thoug Con	Final		
	Dana	Dawes	Long	Bishop	Johnson.	Benson	ıal Rank
Barrett	91 91.4 97 91.2 91.1 93.1 89.1	90 95½ 95 5-6 86 1-5 97 5-6 96 87½ 90¾	95 5-6 94½ 99 93 5-6 95 5-9 99 1-6 95 1-6 97%	98½ 99½ 99 96	78 99½ 77 92 95 85 78	81 85 76 82 100 96 87 94	6 5 4 7 1 2 8

But aside from the tampering with the work of the judges, as charged, there is still much good ground to come to different conclusions as to the rank of the contestants. It seems to us that the system of percentage is incorrect, since one judge's marking may offset that of several others, and the percent of perfection is not sought, but only the relative rank. For correct decision of order given by the six judges see the following table:

ORATORS.	Dana.	Dawes.	Long.	Bishop.	Johnson.	Benson.		Correct Judgement	Decision.
Barrett Wilots Campbell Collins Poston Challiss Chenoweth Cook	7 4 1 5 6 2 8 3	6 4 3 8 1 2 7 5	4 7 2 8 4* 1 6 3 (5)	4 3 1 2 7 8 5 6	6 1 8 4 3 5 6* 2 (7)	7 5 8 6 1 2 4 3	=34 =24 =23 =33 =22 =20 =36 =22	7 5 4 6 2 1 8 3	6 5 4 7 1 2 8 3

As an exchange says: "The farmer's life is no better than any other person's life, unless the farmer appreciates his opportunities for leisure, independence, comfort and enjoyment of the produce of his farm. Appreciating these advantages, his life towers above that of every other occupation."

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

A. WHARTON'S is the most popular Dry Goods Store in popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

GROCERIES.

R. HOPSON & CO., Dealers in Staple and Fancy Groceries, Country Produce, etc. Fruits in their season a specialty. 228

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silveroware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

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Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

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B. PURCELL, Corner of Povntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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Commissioner

Bills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents at Manhattan.

The Industrialist may be addressed through Pres. Geo. T Fair-child, Managing Editor. Subscriptions are received by Supt. J. S. C.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

ments of study of work, may be addressed to the several Floressons and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early n the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE NEW TACTICS.

BY EDWIN B. BOLTON, [Captain 23rd Infantry, U.S. A.]

NEW Tactics has been adopted and published A for the use of the regular army and militia forces of the United States. It is titled "Infantry Drill Regulations, U. S. Army." The order promulgating its adoption is as follows:-

WASHINGTON, October 3rd, 1891.

A board of officers consisting of Lieut. Col. John C. Bates, 20th Infantry; Lieut. Col. George B. Sanford, 9th Cavalry; Major Henry C. Hasbranck, 4th Artillery; Major John C. Gilmore, Ass't. Adj't. General; Captain Joseph T. Haskell, 23rd Infantry; Captain Edward S. Godfrey, 7th Cavalry; and Captain James M. Lancaster, 3rd Artillery, with 1st Lieut. George Andrews 25th Infantry, as recorder at first, and later, 1st Lieut. John T. French, 4th Artillery. having prepared a system of Drill Regulations for Infantry which has been approved by the President, it is herewith published for the information and government of the Army, and for the observance of the Militia of the United States. With a view to insure uniformity throughout the Army, all infantry exercises and maneuvers not embraced in this system are prohibited, and those therein prescribed will be strictly observed.

Secretary of War. The Cadets of the Kansas State Agricultural College have been drilling in this system since the first of the year, and seem to take kindly to it.

The most important queries concerning this new adoption which might naturally suggest themselves to the inquisitive mind of the uninitiated are the three following:-

- 1. Why was the title "Drill Regulations" adopted in lieu of that familiar old word "Tactics," which has been used, for lo! these many years, to convey to our minds the conception of a simple little book which explains military evolutions?
- 2. What were the exigencies which demanded a change in the system?
- 3. In what do the changes consist?

These queries may be partially answered as

I. The title "Tactics," such as used in "Upton's Tactics," "Hardee's Tactics," "Scott's Tactics," etc., is a misnomer. The word "tactics" in military parlance of the present day, implies an ingenious disposition of different bodies of troops on the battlefield as a mass, rather than a set of rules and regulations which specify the positions and duties of the particular individuals constituting each body. Tactics relates to skill in selecting and deciding as to the best place and time for the cavalry, the artillery, and the infantry to take position or to change positions already taken on the battle-field, rather than the set of rules which govern each individual in going into position. Tactics is that decision of a General who perceives in a twinkling, and directs what is best for the different bodies of his army to do during the course of the battle. Drill regulations only prescribe rules for the commander of each body to handle his men in the simplest, best way to avoid confusion while doing it. Tactics is the conception of movements on the battle-field, in unison with a preconceived design to defeat the plans of the enemy. Drill regulations prescribe how to maneuver the men in the easiest, most expeditious manner during the execution. A general may concentrate a large force on one flank, and make a big demonstration which succeeds in drawing an undue proportion of the hostile force to the same flark to oppose him; in the meantime, another force turns the other flank and attacks in flank and rear, thus defeating the army. The conception and execution of the plan would then be called "Tactics;" the special evolutions performed by the various bodies of troops in executing the plans were exercises previously learned from the regulations for drill.

2. The improvement since our late war in the construction, range, and accuracy of fire of all breech-loading cannons and magazine rifles, as well as new inventions in powder and other material and implements for war, have made it im-

possible for us to begin an action at the long ranges, advance in line of battle, take up positions for the assault, and reinforce the line, according to Upton's tactics, without sustaining damaging losses very greatly disproportionate to those of the enemy, and becoming separated into small groups too widely scattered to be controlled by the company or platoon commanders; for which latter contingency Upton's tactics do not fully provide, owing to the fact that the causes which now force the conditions did not then exist.

The new improvements above mentioned, as experienced in the Franco-Prussian, the Turco-Russian, and other recent wars of minor proportions, render it suicidal for troups to attempt to advance, under fire, sufficiently near to begin an assault in the close order of former days. Bodies of troops, above a certain strength, can no longer move in the face of the present arms in other than the dispersed order, because a leaden shower of hostile bullets will inevitably reduce their ranks to the status of a depleted skirmish line; after which decimation any further continuance of the shower results practically in a waste of ammunition, and marksmen then ply their skill on each particular individual of the advancing skeleton. Being harder to hit, the skirmisher can yet possibly continue the advance by lying prone on the ground to fire; selecting depressions in the ground, or other inequalities of the surface, which might afford partial cover, short distances ahead, such as mounds, ledges of earth, rocks, fences, hedges, stumps, trees, etc., and running quickly forward to attain them, and assumes his position immediately, by lying, kneeling, or standing, as the security affords, and continues his carefully aimed fire.

This wanton slaughter of men while advancing to the attack in bodies according to the old formation, and yet possible success while advancing in the extended order, necessitated a change and suggested the following method of attack: There are two or three lines; the first to be divided into a skirmish line in extended order, called the firing line, followed immediately by supports at a convenient distance, who are themselves disposed in fractions more or less grouped, or dispersed according to circumstances, and these backed up by a reserve kept as long as possible in small columns or in line, but liable to be opened out also, if the enemy's fire is telt. The firing line is to keep up a steady fire on the enemy from the moment fire becomes efficient, and advance steadily by running forward short distances at a time to places from which firing can be done under partial cover; the support and reserve closely follow, and gradually increase the firing line until it attains a position near enough to the enemy to make an assault; they then throw themselves on the ground and open such a heavy fire as to enable the second line to approach them. When the second line passes through them for the purpose of assault, the first ceases its fire and joins in the assault on the enemy's position. The third line follows and confirms the success. The skirmishers on the firing line, with the supports and reserves, having necessarily to be dispersed in the extended order, either as skirmishers or in small groups, become too widely scattered for their captain or his lieutenants to supervise and direct their individual movements. Hence the necessity of devising a system of regulations which divides the company into smaller sections than platoons; makes one man responsible for the proper performance of the individuals of each section; and prescribes general rules governing each, so that the whole, though working separately, yet act in harmony as one body under fire. Upton's Tactics did not do this. The Drill Regulations do.

3. The changes consist essentially in prescribing "close-order" movements, which require all formations to be in double rank, and condense each body into as compact a mass as possible, consistent with mobility, so as not to spread all over creation, get into each other's way, and delay the march of other bodies while approaching their positions on the field of battle. This differs from Upton principally in simplicity, and in extending the use of platoons in "extended-order" movements, which divide the platoon into sections, and subdivide the sections into squads, placing them under the leadership and control of sergeants and corporals, respectively; and prescribes rules for placing them into position in dispersed order on the line of battle.

In regulations for "Fire Discipline," which prescribe certain rules to be observed as to when to fire, how to fire, distances, care of ammunition, etc., the Drill Regulations provide for a battalion organization consisting of four companies; a battalion staff, to be commanded by a major; and a regiment, consisting of three battalions, a lieutenant colonel, and a regimental staff, commanded by a colonel. The drill of a regiment corresponds to that of a brigade in Upton.

Drill Regulations for the artillery and cavalry branches of the service were prepared by the same Board; but their adoption has not as yet been promulgated.

A PLEA FOR MORE INDUSTRIAL SCHOOLS. BY G. L. CLOTHIER, '92.

THE wealth of a nation is produced by its laborers. If its people be economical, skillful, industrious, and intelligent, the accumulation of wealth depends only upon time and the natural resources of the country. A nation's greatness depends directly upon its wealth and the intelligence of its inhabitants.

The people are demanding that men be educated to act—to do something as well as to be ornamental. The man who wields a tool with skill is soon to be honored as highly as the one who wields his tongue for the purpose of influencing men's actions. The American people are fast learning to recognize the value of an industrial education.

But how are the masses to get this education? All the industrial colleges of our land, if filled to their utmost capacity, would scarcely hold fifty thousand students; yet there are five millions of young men and young women in our country today needing such an education. This makes it only possible for one in a hundred who need such an education to enter college each year. Thus we see that industrial schools are needed even worse than houses or lands or wealth; for when our working people are made perfectly efficient by means of technical training, there will be no lack of the products of labor.

It seems to me that every university or college in the land not devoted to one special line of work should provide an industrial course of training as a part of its curriculum. Natural science can best be illustrated by the practical application of scientific facts to the arts. Political economy can best be illustrated and enforced by helping the student to become a producer of wealth,that is, a laborer. Shops, farms, and gardens are the great educators of the masses, and the sooner these things are recognized as the necessary environments of a true student the sooner will our institutions of learning fall into line with existing conditions and give their students an education that will make them most useful citizens. No man is any less a gentleman for knowing how to swing a hammer or shove a jack-plane or hold a plow. No woman is any less a lady for knowing

how to prepare a palatable meal, or how to make her own clothing; even the doing of these things does not detract from her true worth.

I believe that one of the greatest problems in our social and political life in the future will be how to educate our young people so as to make them more efficient in their intended vocations rather than to detract from their efficiency. This problem can best be solved by industrial training schools, if these be sufficiently numerous to accommodate our rapidly-increasing population. May the day speedily come when agricultural and mechanical colleges shall be found in every county of our land.

COMPLAINT.

BY KATE OLDHAM, '92.

PEOPLE of good sense and good nature are, every day, guilty of certain follies and impertinances which they consider only as things of course and of such little consequence that they need no apology.

Those who frequent public assemblies, join in a party at cards, or assist in a game of checkers or tennis will give evidence as to the truth of this complaint.

How common it is for some people, at the conclusion of every unsuccessful game, to burst forth into fretful complaints of their own ill-fortune and the constant success of their antagonists! They seem to have excellent memories when considering the games they have lost, but entirely forget the games they have won.

But do we meet this "growler" at games only? No. I am obliged to say that we meet him everywhere—at home, in our walks, at all kinds of social gatherings, at school, and at church; whereever we turn this "growler" seems to be present.

He growls either because the weather does not suit him or because something else equally as uncontrollable does not quite please him.

Now this applies to us as students. If our studies do not suit us, we should study them just as hard as we would if we liked them; and finally when we have mastered them we shall like them and be glad that we did not give over to our complaining natures. It is just so all through life; if we want to complain we are always sure to find something to complain of, but it is just as easy to find things to be pleasant about and thankful for. Why not choose the latter, since by so doing we make ourselves and all those around us happier?

COUNTRY READING CLUBS

BY, ALICE VAIL, '9?.

WE who have lived in the country know all about usual country lyceum. As a rule, it is supposed to be, in some undefined manner, for the purpose of developing the mental strength of its members. Sometimes it does this, but in most places it serves more prominently as a good place for the older ones to compare notes on the current prices of farm products, and for the younger ones to have a general good time. Usually those are in the minority who can be said to come with any definite intention of improving themselves.

Except that the homes are so scattered, there seems but little reason why each country neighborhood should not have a reading circle, with its work carefully outlined and its members pledged to a conscientious performance of duty. We could spare one night in the week as easily for that as for the lyceum, and reasonably expect better results from the well-planned work.

One thing the club would do, does, we may say, is to cultivate a taste for the best reading. If there were no other reason than this, we ought to be glad to give some time to a trial of the plan. If the story corner of the country paper has been our stock of literature, we will be glad to have some of the good thoughts of a great writer as a change.

Whether on the farm or in the country store, we need nothing so much as something new and good to think about. If something good is not provided, we are likely to accept new thoughts which are of doubtful character. If nothing better offers, we are apt to use our imaginations to such a degree, in thinking of other people's affairs, that we become gossips. With something new given us each week from some great man's mind, we would have plenty to occupy our minds, and would be led to forget our troubles and worries as well.

By no means the least good a reading club will do us is that it will make us acquainted with each other. Meeting each other every week, and exchanging our opinions in the discussions, would necessarily make us have a more genuine interest in them; as we would come to know them better, and be able to help them more when they need it.

A reading circle would require more or less work and study: what that is good does not? But count up the good results and have one.

ART AND COMFORT IN THE KITCHEN.

BY LOTTIE J. SHORT, '91.

ITCHEN art? There is such a thing! The Kansas girl who may have to use one end of her kitchen for work, the other for rest, can cultivate in this small place a taste for arranging things artistically as well as comfortably. The "rest" end of her kitchen may contain a bit of carpet, a rocking chair, the sewing machine, a bird, and a few plants. These would not look well, even in a Kansas kitchen, if they were not arranged artistically, and when so arranged, will give the room a home look. The walls should be whitewashed, never papered, and they should be kept white; the floor should be painted and always clean, with home-made rugs placed where one is to stand, at moulding board or sink. The stove should be placed in the most convenient part of the room, and be always blacked. The windows must be bright and clean. A half curtain of some light material is useful. The pantry shelves should be artistically arranged; for if tinware and dishes were piled up together, what a sight 'twould be! Each tin and dish should shine, as it is a great comfort to use them when so. The wall lamp should be speckless and ready for use at all times, the sink perfectly sweet, and the dish and hand towels changed daily. A work table placed near the stove, its top covered with marble oil-cloth, and furnished complete with the necessary utensils used in cooking, is certainly one of the greatest kitchen comforts.

This girl may have to use her kitchen as dining room also, and then comes a real test; for isn't a beautifully arranged table for breakfeast, luncheon, or dinner a work of art? Though this class of work is such as perishes in the using, there is a great deal of it that must be done to keep these bodies of ours in good working order; and as a great many spend a good share of their time in the kitchen, it is well if it can be a pleasant place. The good things that come from this pleasant kitchen are perfection. There's a peculiar flavor in the bread, pies, vegetables, meats, and savory stews, that cannot be found elsewhere; and the one who partakes may say, "Fate cannot harm me; I have dined today."

The agricultural editor of the Topeka Capital has a serious attack of the modern fable fever, but will surely be pardoned by his readers for this one, taken from the current issue:—

"A certain Farmer, Imagining that he Would make Money out of it, Married him a wife. Then he Caused her to do the Cooking and washing for a Half-dozen Hired Hands. He also Referred to her the Small Jobs like cutting Wood, Milking the cows, Herding the Hogs, and tending the Poultry. This Farmer Made Money. But one of his Boys went to Texas, and one went to the Penitentiary, and his Girl ran away with a man who Peddled Groceries. His Useful Wife has a front Room in the Insane Asylum, and there is a Place Prepared for the Farmer to Which he will Shortly go. This story Plainly teaches that a Farmer should be careful when he gets married."

Fall Term—September 10th to December 18th Winter Term—January 5th to March 25th.

Spring Term—March 28th to June 8th.

June 8th, Commencement.

1892.93.

Fall Term—September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Mrs. Popenoe is visiting Topeka relatives.

Mr. Nevel, of Anderson County, was an interested visitor on Wednesday.

Prof. Hood bears the expense of a new street crossing in front of his house.

Mrs. Maggie Campbell-Waldraven, of Parallel, visited College friends yesterday.

Owing to the bad weather, the Oskaloosa Institute was postponed until next week.

Foreman Baxter writes on "Pansies from Seed" in the current issue of the Kansas Capital.

The Anthony Republican devotes over four columns to a report of the Bluff City Institute.

Grass is starting and some trees are budding, and all the indications point to an early spring.

Mr. McCrea, of Donovan, Jefferson County, spent a few days this week with his son, in Third-year classes.

Prof. Hitchcock took advantage of the People's Party Convention at St. Louis to visit his family Saturday and Sunday.

The First-years and "Preps" engaged in a hotly contested game of foot-ball on Monday, the latter winning by a score of six to five.

Mrs. Jolly and daughter Alma, of Manhattan, attended the lecture yesterday afternoon, and later spent some time visiting the buildings.

Institutes will be held next week at El Dorado and Constant. The members of the Faculty assigned are Professors Failyer, Walters, Graham, and Georgeson.

The State Normal School has given a strong lift to the Educational Exhibit of Kansas by contributing already one hundred dollars to the fund of the Board of Directors.

The College is represented in the Osborne Farmers' Institute this week by Professors Olin, Kedzie, and Mason. Dr. Mayo attends like meetings of farmers at Dodge and Garden City.

The Horticultural Department this week purchased a fine team of black horses from Mr. James Barry, of Manhattan, paying therefor \$250. The horses are four years old, evenly matched, and weigh about 1,200 pounds each.

The Scientific Club met in regular session last evening. The programme was made up largely of subjects dealing with photography in its various branches. Papers were presented by Professors Hood, Willard, Breese, and Marlatt.

Our collection of minerals is enriched this week by valuable specimens of zinc blend (black jack), galenite, marcasite, barite, and stalactitic melanterite (native copperas), all sent by W. P. Holman, formerly of Manhattan, now located at Webb City, Mo.

The Farmers' Institute at McPherson, last week, attended by President Fairchild, was not as successful as was hoped, the weather having interfered with attendance. From twenty-five to seventy-five persons were present at the various sessions, and a re-organization for next year was effected.

The lecture yesterday afternoon was by Prof. Failyer, on a geological topic. He gave a brief description of the best known ornamental stones, and indicated the many uses to which they may be and are put. Specimens from the museum illustrated the lecture, and on its conclusion were objects of interest to a large number of students.

Governor Humphrey has appointed two new Regents—Hon. R. P. Kelley, of Eureka, Greenwood County, and Hon. F. M. Chaffee, of Wycoff, Lyon County, to succeed Regents Hessin

and Caraway. Regent Hessin's term expires. April 1st, and he has not sought re-election. Regent Caraway's resignation is made necessary by reason of his being postmaster at Great Bend.

GRADUATES AND STUDENTS

E. E. Eaton, student in 1886-7, is running the farm at home near McPherson.

M. Wheeler, student last year, visited with classmates several days this week.

Mrs. Minnie Turner-McKeever, student of 1886-7, lives at 403 Polk St., Topeka.

W. B. McCord, First year, drops out to work in a railroad machine shop in Nebr aska.

H. A. Darnell, Fourth-year, visited friends near Wabaunsee last Saturday and Sunday.

J. T. Rumble, student in 1889-90, is living at Topeka, and working in the Santa Fe offices.

E. M. Fairchild, '90, has returned to Andover, Mass., to complete his second year in the Seminary.

J. W. VanDeventer, '86, contributes to this week's Kansas Farmer an interesting article on "Be a Man."

H. W. Avery, '91, is still in Montague, Cal., whither he went with a load of horses from the Wakefield farm in November last.

D. W. Working, Jr., '88, signs his communications to the *Colorado Farmer* "Worthy Master, Colorado State Grange," of Denver.

H. W. Mattoon, Second-year last term, now soliciting for the Kansas Weekly Capital, visits Garden City and vicinity this week.

J. B. Brown, '87, Signal Service Observer at Nashville, Tenn., writes in the Tennessee *Jour*nal of Meteorology on "A Plea for Pure Science."

C. E. Jennings, Third-year, and C. D. Adams, Second-year in the Winter term, started Tuesday for Oklahoma, with the intention of taking up a claim

An article from the pen of Gertrude Coburn, '91, Instructor in Household Economy in the High School at Menomonie, Wisconsin, appears in another column.

P. C. Milner. '91, had a vacation from his work in the Santa Fe offices, Topeka, on Washington's birthday, and took advantage of the holiday to visit his Manhattan friends.

E. R. Burtis, Fourth-year last term, writes that he has entered the Freshman Class at Rose Polytechnic Institute, at Terre Haute, Ind., with the intention of taking the four years' course. His address is 506 North Eighth Street.

RECENT BULLETINS.

Bulletin No. 26, from the Department of Horticulture, is entitled, "A Comparison of Varieties of the Strawberry," being an account of the exhaustive experiments conducted the past two seasons. Seventy-one varieties are described. Five tables are presented: No. 1 shows the length of the season; No. 2, the character of the flowers, dates of blooming and ripening, and value in qualities; No. 3, relative productiveness of the varieties; No. 4, average size of berries; No. 5, relative susceptibility to leaf-spot.

Bulletin No. 27, "Crossed Varieties of Corn— Third year," from the Botanical Department, gives the method of experiments in detail, with the following practical conclusion:—

"That characters of so-called distinct varieties of corn can, by means of cross-fertilization, be made to blend more or less completely no longer admits of doubt. From which it follows that by this process desired forms may in general be secured at will, provided the characters sought exist in the varieties used in crossing. Moreover, the blended form, or "cross," so far as our experiments as yet indicate, does not generally (if kept free from contamination by foreign pollen) revert perceptibly to the parental types. From which it follows that the characters secured by crossing can be retained. These two propositions furnish the basis tor rational "breeding up" of corn. If complemented by judicious selection, it is believed that results can be attained similar to those in the remarkable success in establishing the improved breeds of domestic animals."

COLLEGE ORGANIZATIONS

Student Editors -B. H. Pugh, F. C. Sears, May Secrest,

Scientific Club.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lott e J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

Webster Society.—President, F. C. Sears; Vice-President, E. W. Reed; Recording Secretary, R. C. Harner; Corresponding Secretary, E. M. S. Curtis; Treasurer, F. W. Ames; Critic, L. S. Harner; Marshal, T. W. Morse.

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Hamilton Society.—President. G. W. Wildin: Vice-President, J. H. Persinger; Recording Secretary, L. Olmstead; Corresponding Secretary, C. R. Hutchings; Treasurer, W. O. Staver; Critic, A. D. Rice; Marshal, R. B. Abbott.

Ionian Society.—President, Ora Wells; Vice-President. Mary Lyman; Recording Secretary, Harriet Dodson; Corresponding Secretary, Elsie Crump; Treasurer, Bertha J Spohr; Critic. Et fie Gilstrap; Marshal, Fannie Cress; Directors, Ora Wells Maude Knickerbocker, Phœbe Turner.

February 20th.

President Wildin called the Society to order at the usual time. After roll-call, Mr. Fay led in prayer. The minutes of the previous meeting were read and adop ed. The programme of the evening was then taken up. Mr. Rogers essay on "St. Valentine's Day" was short but well prepared and read. Mr. Laschelle then rend, red a declamation in a manner worthy of imitation by older students. Mr. Dougherty's declamation was also well committed and delivered. In the debate, "Would athletic contests between colleges be a benefit 'to us as a college." Messrs. Jones and Bartlette said that athletic sports were conducive to the health of those who participated, and the more these sports indulged in the better, within certain limits. These contests would kindle more enthusiasm and constrain more exercise in the gymnasium an i field. These exer cises were never extended to the degrading influences of the prize ring or its kind by students, and thus they were benefitted. The strongest intellects usually accompany the strongest physiques. Messrs. Plaskett and Findlay said that the exercises for contests were only indulged in by the strongest and only a few received the proper exercise. The contest diverts the attention from studies, and training for the contest will not allow proper time to be put to study. The Judges, Messrs. Joss, Towner, and Pope, decided in favor of the negative. Under extemporaneous speaking the abolition of the College social was thoroughly discussed. New business occupied some time, and after the Critic's report, the Society adjugated time, and, after the Critic's report, the Society adjourned.

February 20th.

The Webster Society was called to order by President Sears. Prayer, by C. Cole. Debate, question, "Resolved, that the Agricultural Department is of more value to the farmers of Kansas than the Herticultural Department," was argued on the affirmative by E. A. Clark and F. W. Ames; on the negative by M. L. Dickson and C. D. McCauley. The affirmative argued that though the Horticultural Department was of some value to the farmers, it was more of a luxury, while farming was a necessity, and the experiments carried on on the farm were of great value; that they could carry on experiments here that a farmer could not afford to, such as how often corn should be cultivated, and at what time it should be cultivated, what distance the hil's should be apart if you want fodder or if you want corn. They claimed that the experiments being carried on now with the fat cattle would settle the question long in dispute among farmers as to what feed was best for cattle, and what kind of shelter they should have while they are being fattened, and though the farmers do not read the bulletins, the students know the effects and the farmers find it out through them. The negative said the farmers knew most of the things the experiments proved before they were tried; that the experiments were carried on in such small plots that they were really impracticable, and that in the bulletins the writers used such big names the farmers didn't know what was meant. They said that, as the catalogue said, the farm was to put in practice what was learned from the agriculture lectures, there was not much practical work to put in practice, except to "Do what you don't want to do at a time when you don't want to do it," and as all the boys were so prejudiced against "P. M." they would not give the experiments a very high recommendation. They said they thought the practical work the Horticultural Department gave the boys to do was of more benefit to them than the experiments carried on by the farm. The decision of the Society was in tavor of the affirmative. R. J. Peck read an essay on "First years." Select reading, L. S. Harner. News, G. A. Dean. A. K. Barnes had a discussion on "Discussions." Society adjourned at 10:50.

E. M. S. C.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

We consider Mr. Brummitt, by all odds, the most graceful and pleasing writer in school, and one of the most talented that has ever been connected with the institution.—Baker University Beacon.

We have innerited great wealth in our present system of education, but it is our duty not only to preserve, but also to improve and perfect it. Of 400,000 pupils in the schools of Kansas last year, but 1829 graduated, 6000 entered one of our three State institutions or some one of the eighteen other colleges, and 6000 more entered the high school. Hence, it is safe to say that ninety per cent of the pupils never enter higher institutions of learning. Our text books should be prepared especially for our schools with the best interests of the ninety per cent of our pupils in view.— Supt. E. E. Olson, of Riley County.

News comes from Wichita that business is growing better every day, and that the Garfield University building has been transferred to Mr. Edgar Harding of Boston, and the settlement of all claims against the institution has been provided for. It is said that it will be fitted up for the opening of a school at an early day, not later than the coming spring, and that an able faculty will be placed in charge of the instruction. We had the pleasure of visiting the bnilding some two weeks ago, and convinced ourselves that there is no better built nor more conveniently arranged school-house in anyof the Western States than Garfield University, though it will take about \$80,000 to entirely finish it. The plan is architectural, and the dimensions are huge. It would be sad for the educational interests of Wichita if the palace that has cost the citizens \$200,000 should be allowed to tumble or burn without having served its purpose.

Last month there was sent from the office of the State Superintendent a circular, stating, in substance, that the committee appointed by the State Teachers' Association to have charge of the Educational Exhibit at the Columbian Exposition had organized as a Board of Directors, with John M. Bloss, of Topeka, as President; A. R. Taylor, of Emporia, as Secretary; and Geo. T. Fairchild, of Manhattan, as Treasurer. The circular contained an outline of the plans for raising money, and those to whom it was sent were asked to aid the committee by suggestions relative to the raising of the money needed, which was estimated to be a sum not less than \$10,000. Nearly 200 replies to the circular have been received. With hardly any exception, the replies to the circular have contained assurances that the school men and women of the State are more than willing to go to work to raise the money needed. The general sentiment of the letters received is, that the money can be most readily raised by a combination of two plans outlined in the circular: (1) Voluntary contributions on a given day by the pupils and their teachers. (2) The rendering of a program, to which a small admission fee shall be attached. After careful consideration of the letters received, the committee believes it to be the sentiment of all concerned: First, That the Educational Exhibition for Kansas must be of a kind to compare favorably with the exhibits certain to be made by other States. Second, That this will require quite a large sum of money, which must be raised through the schools of the State. Third, That to raise the money there must be the earnest, active co-operation of all in any way connected with education; and that means, in Kansas, a great many people. It is intended that the exhibit shall represent every feature of the educational work of the State, and it is hoped and expected that all the schools, public or private, of all grades, will cheerfully do what they can to defray the necessary expense. The Finance Committee, at a recent meeting, selected Friday, March 25th, and Friday, April 22d, as "Columbian Days" for the public schools of the State. They recommend that on one of these two days the pupils be given an opportunity to contribute to the Kansas Educational Exhibit Fund, the amount collected to be forwarded to the county superintendent, who will forward the amount raised in his county to Pres. Geo. T. Fairchild, at Manhattan. The committee also recommend that, where it is at all practical, an entertainment be given by the school for the benefit of the fund, and a moderate admission fee be charged. To aid in this direction, a suggestive program has been prepared by the com-

mittee, and materials furnished, by the use of which an evening's entertainment may easily be arranged. This program, and the selections from which to choose in arranging the program, will be furnished in quantities large enough to supply every school desiring to use the same. Either date or both dates may be used in any county. Two dates were chosen because the committee thought that most of the schools would be in session on at least one of the two dates.

The Kansas World's Fair Boards have completed the examination of the plans submitted for a world's fair building, and awarded the first prize to Seymour Davis, a Topeka architect. The Kansas house for 1893 at Chicago will be constructed entirely of Kansas material, cruciform, and will cost \$20,000. The building is to contain 13,934 square feet of floor space. There will be 4,058 square feet in the rear for the natural history exhibit, and 3,340 square feet in the front of the building for headquarters accommodations, leaving 6,336 square feet for exhibits in the center of the building. The second floor contains 3,840 square feet for exhibits and 3,340 square feet in the front of the building for further consideration. The building combines the idea of a club house and an exhibition building. The room for the natural history collection is covered with glass. Four broad stairways lead from the first floor to the second. A parlor for women and one for men on the second floor are connected by a general waiting room.

Nearly every one who thinks himself inspired to instruct young persons how to write good English tells them first of all to study the style of the best authors and imitate it. The advice is idiotic. How, for instance, would the style of Shakespeare do as a model for a newspaper reporter of this time? How would the high-stepping measures of Macaulay read if applied to the description of a lively trial in a police court? We are told that Lincoln acquired his wonderful command of English through a careful study of Shakespeare and the Bible, but neither the literary style of the one nor the other of these appears in his wonderful message. The simple truth is that Lincoln had first something to say which overshadowed all considerations of style in its importance, and the only style Lincoln ever aspired to was to put this in the plainest English. Every person has a style of writing which is his own, as much as the shape of his nose is his own, and it is the one in which he will succeed the best. Let him learn good grammar and spelling, then practice as Lincoln did, putting his thoughts into the plainest English that is at the same time refined and dignified, and the style will take care of itself.—Exchange.

TWO COFFEE MAKERS.

One economizes by buying the best in the market. The other throws money away for a cheap article.

One gives her careful attention to browning her coffee, little at a time. The other lets the children brown several pounds while she goes gossiping.

One keeps it in a tight jar. The other in a paper bag.

One washes the coffee-pot every day in clean water. The other empties it when accumulated grounds half fill it, and then wipes it with a greasy dish-rag.

One measures the coffee with a spoon and water with a cup—"a spoon and a cup for each person and one for the pot." The other uses her hand for a coffee measure and guesses at the water.

One mixes the coffee with fresh egg and adds fresh boiling water. The other throws a little coffee into that left over and pours in an uncertain quanity of any water at hand.

One times the boiling, and has it done just when the bread is brown and the steak rare-done. The other lets it boil much, little, or none, as it pleases.

One delicately lifts the sugar from a polished bowl and pours the cream from a crystal jug. The other spills some sugar in cup and saucer and slops some milk fro n a dull, linty milk pitcher.

One easily, deliberately, gracefully, conscienciously, raises and tips the coffee pot and lets the tiny amber stream fall through a bright strainer into the cup until it is three-fourths full. The other gives the handle an energetic jerk and a flourish

that fills the cup with a muddy, very black, or very pale slop full of floating grounds.

One pours out a cupful and pours it back and polishes the pot with a clean towel. The other considers that useless.

One sits behind the coffee cups like a queen in a clean calico gown. The other looks like a fright in a spattered, cast off visiting dress.

One passes the dainty cup with a grace as dainty and a smile that is real sunshine. The other shoves the cup to her neighbor with a There!-I-hope-you are-satisfied now air, and hastens to her sour buck-wheats.

One sends her husband to his morning work sure that life is worth living. The other —. Gertrude Coburn [91], in Kansas Capital.

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The Experiment Station should be addressed through the Secretary.

WEEDS.

BY PROF. A. S. HITCHCOCK.

LTHOUGH most people know what a weed A is, it is difficult to frame a definition for one which will apply under all circumstances. It has been defined as a plant out of place. This answers very well if we consider the phrase "out of place" from the standpoint of man, and not from that of the plant in question. In broad terms, any plant becomes a weed when it grows where it is not wanted. The plant may be absorbing nutriment and occupying space needed by cultivated plants among which it has intruded, as in the garden or field; or it may occur among plants not cultivated, but useful to man, as in a pasture or meadow of wild grass. Or it may only occupy space needed for other purposes, as in a door-yard, path, or a navigated stream; or it may be merely unsightly, as in a lawn or fence corner.

Why some plants become weeds and others do not, is a question of great practical importance, as well as theoretical interest. The fact of a plant becoming a weed shows that it is better adapted to its surroundings than those which it displaces. It is more successful in the struggle for existence than the useful plants, or than others which may have an equal opportunity of gaining a foothold. There is no character which distinguishes weeds: some are annual, some biennial or perennial, some bear many seeds, some comparatively few. Many are introduced, being natives of Europe, or a few of Asia, South America, or Mexico, and several are introduced from other parts of our own country. A plant frequently becomes a vile weed in one region and is entirely absent from another; or if introduced, seems unable to make much headway. The Canada thistle, a native of Europe, and not of Canada, is a common and persistent weed in the eastern part of the United States, but is rare on the plains. So with the daisy (Chrysanthemum Leucanthemum), which is very troublesome in the east, but although established in many places in the Mississippi Valley, shows little tendency to spread. Many eastern weeds are traveling westward, and will doubtless reach Kansas in due time. On the other hand, many of our western plants are traveling eastward as weeds. The Buffalo Thistle (Solanum rostratum), a native of Southwestern United States, is spreading eastward, and has already crossed the Mississippi.

The seeds or fruits of weeds vary very much in their means of dispersal. The Cockle-bur has the fruit covered with hooks; the Beggar-tick is provided with barbed spines. In such cases the seeds are carried long distances in the clothing, or in the hair of animals. The seeds of the Thistle and Milk-weed are carried from place to place by the wind. But a large number of seeds of weeds have no special aid in this direction, being frequently small and smooth. Such is the case with the mustard family, the species of Amarantus and Chenopodium, the Purslane, and a number of other bad weeds.

With perennials, the power to increase by seed is frequently supplemented by the ability to send out underground stems which produce young plants in the neighborhood of the original.

But weeds are not especially favored in means of propagation. Most orchids produce seeds in countless numbers, and yet are rare. Many plants have much more curious and elaborate contrivances for the dispersal of the seeds.

There are evidently other circumstances or conditions surrounding the plant, or some inherent qualities, which enable it to outstrip its competitors in the race of life. It may be that a greater number of the seeds germinate, and with greater

readiness. It may be that the seedlings are less susceptible to adverse conditions, as heat or cold, drouth or moisture, light or shade, etc. It may be that the time from germination to the production of ripe seed is shorter; or that the flowers are self-fertilized, and hence a large amount of vitality is saved which otherwise would be used up in the excessive production of pollen, or in case they are fertilized by the wind; in the development of flowers with fragrance, honey, or showy colors to attract insects, if they are fertilized by this means.

Our weeds possess various combinations of these and other qualities. In order to know best how to combat them, we must know their life history, that we may attact them at the weakest point. This is one of the problems under investigation by the Botanical Department of the Experiment Station, and to be successful we must have the co-operation of the farmers of the State. It would help us greatly if every person interested in this question would make careful observations the coming season. Let him note all the plants which are weeds in his vicinity; and I should be very glad to have the seeds or fruit with a few leaves, or still better a part of the plant with ripe seeds attached, sent to me, of all the weeds possible. Observe the time when first noticed, the kind of soil in which they flourished, and in which they are hardest to eradicate; the effect of mowing, harrowing, hoeing, or otherwise attacking them; observe what effect is produced by heat, cold, moisture, etc. In fact, make all the observations that suggest themselves, and send in to me with the specimens of the plants. I shall be under obligations for any communications on the subject, and will gladly correspond with anyone interested, and hope that as many as possible will become interested.

ELOCUTIONIZERS.

BY PROF. JAMES W. RAIN.

THERE is an opinion prevailing in many cir-L cles that elocution is not a study, or, at least, scarcely fit for serious and scholarly men and women; that it is a sort of epidemic which makes its attacks about the age of fourteen or sixteen, and then is outgrown, very much as the measles or the croup. Or if it clings to one long enough to make him a teacher of elocution, he is given about the same rank in the social scale as "Professor" Phulem, who stands on the street corner dispensing quack medicines.

This idea is combatted with great vehemence and some asperity by (1) the young Hamlets who are in the ambitious stage of the malady, (2) the "unrivaled humorist" who desires to entertain the public at \$20-\$50 a night, and (3) the spickand-span professor who, for the same sum, will give ten lessons in the histrionic art. But there are some others who cannot be classed as ninnies or knaves, that are among its champions. From more or less data they have concluded that a training of the voice and bearing should give good results; and, having deduced this admirable theory, they turn over the practical application of it to the aforementioned "professors." Their ideas might perhaps be fairly stated thus: There ought to be some encouragement and attention given to But how, or what, or elocutionary training. when, they have not the faintest notion, and their blind groping after truth gives occasion for the adverse criticism of those that know no more about it, and could do no better if they tried.

It is not unnatural that there is in many mouths wholesale condemnation of these professional elocutionizers and scant respect for their well-meaning followers. There is some ground for it. There are

readers and readers; and, as it is much easier to imitate than to be, those with no ability are sometimes found parading with considerable strut. "For the most part, they are capable of nothing but inexplicable dumb-shows and noise."

In our modern mania for syste natizing, the subject too often is separated into divisions which are illogical, incomplete, or irrelevant; "method" is exalted as if it were the end, and the whole becomes mechanical. I remember when a school boy, an elocutionist visited our academy and recommended us to attend the entertainment in the evening, saying as an extra inducement, that he would recite "'The Burning of Chicago,' a piece having seventeen elocutionary elements in it." And what might an "elocutionary element" be? In a recent paper we are told that the orations of certain contestants will be graded on originality, thought, grammatical and rhetorical structure, expression, vocal delivery, conception, and grace of delivery. Why all these divisions? What is the difference between originality, thought, and conception? If one has conceived the thought himself, it must be original; if he has not, if it is not thought at all, it is repetition. And what does "expression" mean, if it does not include grammatical and rhetorical structure, vocal delivery, and grace of delivery? It is the expression of thought in words, and in tones of the For convenience, these two might be called rhetorical expression (structure) and vocal expression (delivery).

The false standard of elocution is upheld also by the publication of unfit selections, and the choosing of them by those interested. A low conception of any art naturally produces inferior and distorted examples of that art. The following are three among many clippings from a table of contents, which was sent as an advertisement:—

THE CONCERT IN THE WOODS. Affords opportunity for a variety of bird-notes

How Salvator Won. Ella Wheeler Wilcox. A most vivid description of a horse-race, affording opportunity for fine actionwork. Can be given in jockey costume.

THE MAY POLE. A light and airy piece, affording opportunity for jig steps and musical accompaniment.

What business have bird-notes, jockey costumes, jig-steps, and musical accompaniments in a rational reading of good English? We expect these things in an organ-grinder's monkey, not in a man—unless he was born insane and has delirium tremens.

None of these is the interpretation of human thought and feeling; but, instead, a shallow, tickling mimicry. A public reader should be, not what Mark Twain would call an "inspired idiot," but a man of powerful intellect, of liberal culture, of deep feeling,-a warm, luxuriant nature, responsive to every vibration of the human heart. Alas, "there be players that I have seen play. and heard others praise, and that highly, not to speak it profanely, that neither having the accent of Christians, nor the gait of Christians, pagans, nor man, have so strutted and bellowed that I have thought some of Nature's journeymen had made men and not made them well,-they imitated humanity so abominably." And why? Because nobody had taught them any better, so they imitated as best they could. Today, even, some are taught to make this tone or that gesture after their teacher; then having taken the conventional number of lessons, they are let loose upon humanity. Do pupils study drawing in order that they may be mere copyists? In both studies alike, the training should be to induce the best conditions for the expression of the student's own ideas and personality.

"Effort Wins" is the subject of an article in a late number of the Industrialist, which is very suggestive, and worthy the consideration of every one who would learn the way to success.—Midland College Monthly.

SCIENTIFIC CLUB REPORT.

February 26th, 1892.

The Scientific Club assembled, and President Mason being absent, Professor Nichols was elected as chairman for the evening. The minutes of the previous meeting were read and approved.

PHYSICS AND MECHANICS OF THE CAMERA.

The amateur photographers of the College then took charge of the session, and gave us a general view of the subject of photography. Professor Hood introduced the subject with an outline of the physics and mechanics of the camera. The supposed character of light was spoken of, its refraction, and the formation of images by means of lenses. Focusing was explained, and the necessary parts embodied in a camera were described. A darkened chamber with a sensitive plate at one end, receiving the image of an object upon it through a pin hole in the opposite end, is the simplest camera. For the sake of distinctness, illumination and correct proportions of the image, lenses are substituted for the small opening. A sliding back enables the plate to be put in the proper focal position. The various accessories which the amateur uses to facilitate his operations were briefly mentioned under the heads of plates and plate-holders, tripods, shutters, tripods, swing backs, and portable cameras. These points were illustrated by the several cameras shown.

THE CHEMISTRY OF PHOTOGRAPHY.

Second was the chemistry of the several photographic operations—a paper prepared by Mr. Willard and read by Professor Failyer. The effect of light on silver salts was explained and illustrated. The development of an exposed plate was said to be due to the reducing power of certain solutions upon the portion of the silver bromide of the plate which has been changed by light. The powerful reducing action of pyrogallol was shown. Fixation of the developed plate is accomplished by dissolving out any unreduced silver bromide from the plate by means of a strong solution of sodium thiosulphate, or "hyposulphite," as it is usually called. This depends upon the power of this substance to form a very soluble double salt with silver. In printing, the silver salt of the sensitive paper is charged in the same way as that of the plate, but to a much Fixation is the same as with greater extent. plates. Toning depends on the power of the exposed silver salt to reduce a solution of gold to the metallic state, the gold being deposited upon those portions of the picture which have been exposed to light.

THE FLASH-LIGHT IN PHOTOGRAPHY.

Mr. Breese followed this in taking a picture by flash-light and then developing the negative and making a print. The flash-light used was a mixture of powdered magnesium, bichromate of potash, and permanganate of potash. This mixture, prepared for the oocasion, when burned produces an intense white light, which lasts but a short time. He explained each step in such a way that each was able to understand. In a short time he showed us the proof, and we had no reason to believe that it was not an exact likeness of the one taken. He also took bromide prints of some other negatives, and developed them. The bromide paper differs from ordinary photograph paper in that the image is not seen till developed. In fact, the sensitive coating is very similar to that on a dry plate. The developing solution used is a mixture of ferrous sulphate (copperas), potassium oxalate, and potassium bromide. The copperas is the reducing agent in this development, playing the same part as the pyrogallic acid in the development of dry plates. The potassium bromide is put in to retard the action of the copperas to a certain extent. A compound is supposed to be formed with it and the sensitive coat-

ing which is not reduced so rapidly as the coating alone.

Mr. Marlatt presented the subject of

ISOCROMATIC, OR ORTHROCROMATIC PLATES.

From the first step in the art of photography i has been the desire of the progressive photographic artist to reproduce in his picture the exact colors of the object photographed, whether it be the human face in all its beauty, a landscape with its varied autumn tints, or a world-wide famed painting by one of the old masters.

But, alas! he he has fallen far short of this. In fact, many of the beautiful shadings and blendings of color appear only as a blot when "taken" on an ordinary dry plate.

The various shades of red, orange, yellow, and some green have comparatively no action on an ordinary dry plate, and so appear dark in the finished photograph.

As photographing in colors seems to be out of our reach at the present time, the next plan resorted to was to make a plate that would be sensitive to all the color rays of the spectrum in the order that we see them, blue being the most sensitive and red least sensitive. White light, being the combined effect of all the rays, would of course be most active. Black of necessity would have no action on the sensitive film.

The first step taken in this direction was made by Prof. H. W. Vogll, of Berlin, in 1873. He found that by the addition of certain aniline dyes to the sensitive emulsion, the more active rays of the spectrum were rendered less active, and the less active rays were rendered more active. He, however, still had to use a color screen to retard the action of the more active rays. These experiments have been carried on by various investigators, till at present we have dry plates relatively sensitive to all the visible rays of the spectrum.

With these plates the markings of the most delicately colored insect can be faithfully reproduced. It is now possible to photograph almost any object of color, without the use of a color screen.

In the studio, also, the colors of the eyes, hair, and of the costume, will have their correct value. Freckles, also, will be less prominent.

These plates being sensitive in a greater or less degree to all the rays of the spectrum, should be developed as far as possible in the dark, and examined from time to time by very dull ruby light only, as the ordinary red light of the dark-room will fog them.

Mr. Marlatt showed a number of photographs of Lepidoptera taken on Cramer's Isochromatic plates, showing all the delicate markings.

He then introduced the subject of bromide enlargements, telling how it was done, and showing a number of enlargements from 4x5 negatives. The advantages of this method are, the plates are much cheaper, more easily handled, and take up much less room when stored. They can be used to great advantage in the class-room as a means of illustration.

Mr. Wildin closed the program with the subject of IRON PRINTING, OR BLUE PRINTS.

The fact that iron salts are sensitive to light has been known since about the year 1840. But it was not until about 1878 that it was made use of as a practical means of copying prints. This process consists of essentially the following: The paper is sensitized with a mixture of 10 parts of ferric ammonium citrate and 8 parts of potassium ferric cyanide, together with 82 parts of water. This is spread on the paper with a sponge or brush. The paper is dried, and is ready for use. Ten minutes, exposure when placed under tracing paper is sufficient to make a print. All that is necessary in developing the picture is to wash it in clear water. This process at present is more extensively used than any other heliographic process. Its increase in popularity is probably due to the fact that it is especially adapted to the printing of large prints, which is essential for its use in architects

Continued on page 108.

1891-92.

Fall Term—September 10th to December 18th
Winter Term—January 5th to March 25th.
Spring Term—March 28th to June 8th.
June 8th, Commencement.
1892-93.

Fall Term—September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

The Webster annual will be given March 12th.

Mrs. Graham and children are visiting relatives
near Topeka.

The report of the Scientific Club will be found in a new position this week.

Many students are dropping out of the course to begin spring work on the farm.

F. A. Marlatt writes in this week's Capital on "A Sprayer for Fruit-growers."

President Fairchild was in Topeka Thursday and Friday. Prof. White took charge of the Logic class.

The regular monthly meeting of the Young Men's and Young Women's Christian Association was held last evening.

One of the chemical fire-extinguishers is being converted into a hose reel of considerable capacity, and the other is being repaired.

The Epworth League gave an entertainment at Eames Hall Friday evening in the character of a "whittling bee." A large number of students were present.

Rev. Thos. Marshall, of Chicago, visited the College Monday morning with his niece, Sarah Marshall, a former student, giving excellent advice to the students in chapel.

Prof. Olin was the guest of his brother, Walter H., '88, while in attendance upon the Osborne Farmers' Institute. From Mrs. Kedzie it is learned (Prof. Olin's report, it was feared, might be biased!) that Mr. Olin is in high favor with the people of Osborne as an educator.

Walter Olin, of Osborne City, sends us a very neatly-gotten-up programme of the class-day exercises of the high school, which were held Monday evening, February 29th. The Senior Class has twenty-two members, and their motto is "Not for School, but for Life, We Learn."

The workers in brass are making a host of pretty trinkets during their practice hours, among which are paper weights and paper knives of various designs, drawer pulls for the library catalogue cases, etc. The largest casting, of bronze, weighs twenty-five pounds, and is without a flaw.

Professors Hitchcock and Mason represented the College Thursday and Friday in the postponed Institute at Oskaloosa. A fair number of farmers were present. Regent Wheeler read a paper on "General Farming." A permanent organization was effected, and the next meeting announced for Nortouville, in June.

President Fairchild, Treasurer, evidently expects a shower of contributions to the fund for the Kansas Educational Exhibit at the World's Columbian Exposition, as the Printing Department has just finished a job of 3,000 receipts for him. It is safe to say they will all be used for goodly amounts.

On their return from the Osborne Institute, Mrs. Kedzie and Mr. Mason took advantage of an otherwise tedious wait in Beloit—made necessary by belligerent railroad companies who, to gratify their personal spite, inconvenience the traveling public by trying to miss connections—to visit the State Industrial School for Girls. The visitors found much of interest in this new institution, and are satisfied that it is doing a grand work. Miss Spencer, the Superintendent, reported an attendance of seventy-eight students.

Friends of the College will be glad to know that the successors to Regents Caraway and Hessin are men of liberal education as well as recognized ability in the callings. Mr. Chaffee is putting a classical training into use upon his farm in Lyon County. Mr. Kelley, an enterprising lawyer in

Greenwood County, is a graduate of the Iowa Agricultural College, from the English and Agricultural course. Both come to their duties in our College well equipped by both training and experience for a genuine interest in the advancement of agricultural education.

Mr. Mason spent a few hours in the woods near Oskaloosa, after the Institute, and under guidance of Walter Buck, student in 1881-2, found a large number of specimens, which will arrive in a day or two.

Profs. Kedzie, Olin, and Mason report a very pleasant institute at Osborne last week. Although the attendance was not very large, some interesting papers were read and discussed by practical farmers. Secretary Mohler of the State Board of Agriculture was present, and added much to the interest and helpfulness of the meeting. Osborne county has many energetic farmers who are doing much to develop a fine agricultural region.

The second division of the Third-year Class presented original productions in Chapel yesterday, with subjects as follows: E. C. Abbott, "Our National Growth;" Ione Dewey, "What We Learn and What We Forget;" E. J. Abell. "Some Musings on Music;" Maud Gardiner, "Our Friends in Feathers;" C. L. Gall, "Riches vs. Happiness;" Ivy F. Harner, "Earth's Battle Field;" Geo. K. Thompson, "Liberal Views."

Capt. Bolton has issued the following circular to the Professors of Millitary Science and Tactics at the various educational institutions in the Union:—

"Dear Sir:—How would you favor a proposition to inaugurate a 'College Cadet Encampment'—say for one week about the last of June—at the World's Columbian Exposition next year?

"I believe it will meet with a hearty response in the approval of all Cadets, redound in substantial benefit to each participant, and "boost" our College Military Departments into greater prominence and actual favor.

"Battalions averaging 150 Cadets from each of the 75 Colleges, and others who desire to co-operate, will put a force of over 10,000 of the finest, most attractive, and best-drilled bodies on the Continent; and their commanders being Army Officers, they should be readily consolidated into regiments, brigades, divisions, etc., and maneuver, without a hitch, in all the evolutions of drill ceremonies. It may be possible for the U. S. M. A. Corps of Cadets to participate.

"Please let me hear from you as soon as possible, with any suggestions whatever. Committees should be organized and begin work at once."

GRADUATES AND STUDENTS.

W. A. Smith, First-year, returns to his home in Illinois.

Myrtle Whaley, in Second-year classes, drops out to attend to home duties.

Martha Cottrell, Second-year, leaves classes this week on account of ill health.

J. R. Johnson, First-year, is needed on the home farm, and leaves College this week.

A. W. Brewer, Second-year, succeeds M. L. Dickson as College mail-carrier and postmaster.

M. L. Dickson, Third-year, goes to his home in Edgerton, this week. He may return next year.

A. A. Mills, '89, writes of energetic work at the Utah Agricultural College as Agriculturist of the Station.

J. B. Hoyt and Martha Hoyt, First-years in 1890-91, have entered the second year at the Utah Agricultural College.

Anna Snyder, '88, and Stanley Snyder, '89, greeted Professors Hitchcock and Mason at the Oskaloosa Institute.

Mrs. Pamelia Hoyt-Mills, Second-year in 1890-91, sends from Logan, Utah, kindly greetings to old friends at the College.

C. W. Thompson, '89, sends an announcement of the commencement exercises of the Kansas City Dental College this month.

Bertha H. Bacheller, '88, writes from Sterling, Kan., in behalf of one of her pupils who intends coming to College next year.

Mrs. Kedzie enjoyed the hospitality of D. G. Robertson, '86, and Mrs. Robertson during her

visit to the Osborne Institute, last week. She found in Mr. Robertson the same earnest talker and doer for his alma mater as of old.

Marie B. Senn, '90, writes from Enterprise, Kan., hoping to take post-graduate study here after her school closes in the spring.

D. E. Humphrey, First-year, is called home by his uncle, who is laid up with a broken foot, and needs his nephew's help on the farm.

Jacob Lund, '83, writes from Sidney, Washington, with a longing to return to college work atter his six years of experience in other fields.

At the Garden City Farmers' Institute recently, F. A. Waugh, '91, editor Agricultural Department of the Weekly Capital, read a paper entitled "The Kitchen Garden."

O. L. Utter, '88, teacher in the Garden City schools, lectured before a meeting of teachers at Deerfield on February 26th, on the subject, "Education: Its Past, Present, and Future."

COLLEGE ORGANIZATIONS

Student Editors.-B. H. Pugh, F. C. Sears, May Secrest,

Scientific Club.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lott e J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

Webster Society.—President, F. C. Sears; Vice-President, E. W Reed; Recording Secretary, R. C. Harner; Corresponding Secretary, E. M. S. Curtis; Treasurer, F. W. Ames; Critic, L. S. Harner; Marshal, T. W. Morse.

Alpha Beta Society.—President, May Secrest; Vice President, J. B. Thoburn; Recording Secretary, C. H. Thompson; Corresponding Secretary, Ivy Harner; Treasurer, Fred Hulse; Critic, Grace Clark; Marshal, Stella Kimball.

Fohmony 98th

February 20th.

Vice-President Lyman called the Ionian Society to order. Singing, prayer, roll-call. As this was the anniversary of H. W. Longfellow's birthday, the Society had prepared a programme appropriate for the occasion. The programme was opened by an instrumental solo by Blanche Hayes, followed by a select reading by Miss Joh nston. Marie Haulenbeck read an essay entitled "Concord: Some of its Highways and Byways." The Oracle was edited and read by E fie Gilstrap. I'he Society was entertained by a vocal solo, "Some days must be Dark and Dreary" rendered by Lorena Helder. Maud Knickerbocker opened the discussion on the question, "Was H. W. Longfellow the greatest poet of the age?" Fannie Cress gave the news report, followed by an instrumental solo by Olive Wilson. After the report of committees and reading of minutes, the roll was called, to which each member responded with a quotation from Longfellow. Adjournment.

A goodly number of manbers, notwithstanding the disagreeable weather, were called to order by the gavel of Pres. Sears. M. W. McCrealed in prayer. The names of two more members, Messrs. Patten and Brown, were added to the roll. After reading and adopting of minutes, the debate opened with the long-argued and yet undecided question, "Is the pen mightier than the sword?" The assistants being absent, the leaders proceeded alone with the debate. F. S. Little defended the affirmative in a very interesting manner, arguing from generals to particulars; from particulars to generals; from facts, to principles, and from principles to facts, at last with the implicit assurance that he had forever settled the question he affirmed, that "The pen is mightier than the sword." M. F. Hulett, with much the same arguments, and handling it equally as well as did his opponent, arrived at the opposite conclusions. A small majority of the Society decided in favor of the affirmative. M. O. Bacheller entertained with a declamation. An essay read

majority of the Society decided in favor of the affirmative. M. O. Bacheller entertained with a declamation. An essay read by G. C. Wheeler, on "Ancient and Modern Weapons of War," was very good. He traced the evolution of war weapons from the sling of ancient times to the most modern inventions of fire arms. H. Darnell presented a good number of the Reporter, after which the Society adjourned to meet in ten minutes A song, "Money," was rendered by F. S. Little. "The West Virginia Moonshiner" was thoroughly discussed by J. Stingley., followed with an extemporaneous talk by Mr. Holmes, on the "Nicaragua Canal of Central America." After the usual business, the Society adjourned.

G. K. T., See. pro tem.

February 26th. President Secrest called the Alpha Betas together immediately after the lecture. Music, solo, "Come Rack to Erin,, by C. E. Abell Inez Palmer then read an essay on "old Maids." The subject was well handled, showing careful preparation. The question, "Resolved, That athletics, as they are carried on in our higher colleges, are a detriment to the students," was debated on the affirmative by J. E. Tnackrey and Stella Kimball. The object of athletic sports is to give physical exercise, but this in a college course is only incidental. As they are practiced in our colleges, they tend to injure both students and college. Interest inreal school work is lost in the zeal to excel in some of these sports. The amount of time taken to prepare for these great combats leaves no time for studies. Although some time is necessary in caring for the physical man, it is not essential that it be carried to such an excess. We do not admire Sullivan, but we do admire a man with brains. There are many cases when students injure themselves physically in the se sports. In these contests which so often take place, every means fair or foul, is used to gain the desired end. Sarah Cottreli and Elva Palmer on the negative argued that the object of athletic sports was not only to improve the physical body but the mind also. For a strong body is necessary to a strong mind. The training received in these drills is also of g reat benefit, as it teaches order and system. That we need physical training is plainly seen by the round shoulders of so many students. The Judges, Messrs. Fryhofer, Christensen, and Zimmerman, decided un bimously in favor of the affirmative. The Gleaner was read by Ivy F. Harner. Recess. Duet, Inez and Elva Palmer. Hugo Halstead gave the newg of the week, after which the usual business of the Society was transacted.

I. F. H.

Continued from page 106.

offices; also, the simplicity of working, together with the durability of the prints. This process is quite likely to prove beneficial in copying objects of life size, as, for instance, leaves, irregular figures which are tedious to draw, and small gear wheels. Another point in its favor is that the paper requires no sizing before the solution is applied, which is necessary with other paper.

LOTTIE J. SHORT, Adjournment. Secretary.

THE WEATHER FOR FEBRUARY. BY PROF. E. R. NICHOLS.

The mean temperature for February was 34.61°, which is 3.96° above normal. There has been but eight warmer Februaries, while twenty-five have been colder; the extremes being 40.37° in 1882, and 21.5° in 1879. The highest temperature for the month was 64°, on the 17th; the lowest, 12°, on the 8th and 15th; a monthly range of 52°. The warmest day was the 23rd, the mean being 49.25°; the coldest was the 14th, the mean being 21.75°. The greatest range on one day was 40° on the 12th; the least, 1°, on the 6th, 18th, and 27th. The mean of the observations at 7 A. M. was 28.28°; at 2 P. M., 43.28°; at 9 P. M. 33.45°. The mean of the maximum was 45.17°; of the minimum, 26.21°; the mean of these being 35.69°.

The mean barometer for the month was 28.91 inches, which is .00 inches above normal. The maximum was 29.25 inches at 7 P.M. on the 16th, the minimum was 28.226 inches, at 2 A.M. on the

There were seven clear days, nine entirely cloudy, four more than two-thirds cloudy, four more than one-third cloudy, and five less than one-third cloudy. The month was unusually cloudy, the per cent of cloudiness being fifty. The total rainfall was 2.95 inches, falling on the 4-5th, 6th, 18th, 23rd, and 27th. This is the greatest rainfall for the thirty-five years of the College records,

the mean being 1.07 inches.

The wind was from the southwest twenty times; northwest, fifteen times; northeast, fifteen times; north, thirteen times; east, nine times; southeast, four times; south, four times; west, four times; and calm, three times. The total run of wind for the month was 7024 miles, giving a daily mean of 242.22 miles, and an hourly mean of 10.00 miles. The highest daily velocity was 407 miles, on the 10th; the lowest, 101 miles, on the 20th. The highest hourly velocity was 30 miles, from two to three P. M. on the 10th, and from one to wo P. M. on the 12th.

Below will be found a comparison with the preceding Februaries:-

February.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	7	.46		25.49	71	- 1			
	2	.61	N	32.25	63	- 5	******		
	4	1.84	6 W	33.74	64	- 6			
	0	.00	NW	33.71	68	- 9			
0.00	1	.12	NW	24.54	54	0			
	7	2.70	N	29.72	53	- 4			
1863		1.10	NW	38.20		- 4			
1864	4	2.41	NW	34.68	58	13		*******	
1865	4	2.41	Sand Tare 197	04.00	90	10			
1866		0.01		31.70	57	- 2		****	
1867	3	2.01	N	29.39	69	- 6		*****	
1868	2.0	.18	NW	30.27	65	- 4	28.74	29 25	28.30
1869	5	1.17	NW	33 68	69		28 69	29 10	28.10
1870	0	.00	NW	35.86					20.1
1871	6	2.48	SW		71	3	********		
1872	4	.48	NW	32.27	68	-10	*******		
1873	2	.30	SW	30 50	66	- 4	00 80	90 94	00 1
1874	4	1.05	SW	25.27	48	2	28.78	29.24	28.10
1875	4	.87	r W	22 50	63	-10	28.78	29.40	28.1
1876	2	.65	sw	36.96		- 4	28.81	29.32	28.2
1877	5	. 91	SW	39.59		16	29.01	29.40	28.4
1878	5	1.44	SW	39.10		6	28.65	29.13	28.2
1879	2	.75	SW	21.50		-14	28.84	29 42	28 2
1880	1	.05	SW	36.78		4	28 59	29.09	28.0
1881	3	2.75	FW	22 55		-13	28.63		28.2
1882	2	. 42	SW	40.37		7	28.65		28.1
1883	4	1.75	NW	25.76	65	-17	28.88		28.0
1881	3	.68	SW	26 01	63	- 6	28.76		27.9
1885	5	.55	SW	21.57		-18	28.58		28.0
1886	4	.35	SW	31.42		- 7	28.94		28.0
1887	6	1.18	NE	27.84		- 9	28.98	29.59	27.9
1888	2	2.67	N	32.12		- 4	29.05	29.75	28.4
1889	3	.54	N	25.5		-10	29.15	29.80	28.4
1890	5	.24	N	29.97		- 5	28.95		28.4
1891	2	.84	N	27 50		0	28 88		28.1
1892	5	2.95	SW	34.61		12	28 91		28.2

	V	VIND REC	ORD,			
February.	Total Miles.	Mean Daily.	Maximum Daily.	Minimum Daily.	Mean Hourly	Maximum Hourly.
1889 1890 1891 1892	4861 5812 7675 7024	173.62 207.57 274.11 242.22	348 374 541 407	40 74 80 101	7.23 8.65 11.42 10.09	28 28 34 30
Means	6343	224.38	418	75	9.35	30

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

The University Courier advocates the organiza tion of a Kansas College Press Association.

The farmers of Wallace county have donated a carload of wheat to Bethany College at Lindsborg.

Our Oklahoma neighbors have a live school journal. The editor is Frank Terry, of Guthrie.

The Wichita Eagle compliments Dr. Hoss forsuccessful work in teaching literature and oratory in the city normal school.

The Speer-Winans Teachers' Association will meet in Manhattan the first week in April. The programme and dates will be published next week.

Supt. J.O. Hahn of Barber County has issued a circular letter to the children, teachers, and patrons of his county asking contributions for the educational exhibit of Kansas at the Columbian Exposi-

Supt. Greenwood of Kansas City, who is one of the directors of the National Educational Association, thinks it probable that on account of the World's Fair no annual meeting will be held in '93, but that the meeting in 1892 at Saratoga will be very well attended.

The Kansas City Star says that the private library of the late Senator Plumb has been presented to the State Normal School. The gift consists of 1,000 volumes of carefully-selected public documents, and is a very valuable addition to the Normal's library.

Believing in the old saw that the early bird catches the worm, the Topeka Capital in a late number says: "One of the educators mentioned for Superintendent of Public Instrction is Professor C. Y. Roop, Superintendent of Salina city schools, and a man of scholarship, high character, and wide personal acquaintance."

According to the Lawrence Record, the faculty of the State University are again on the warpath against the fraternities, i. e. secret student societies. The question pending this time is, "Shall fraternities be allowed to pledge or initiate students who have not finished their freshman work?" A number of other institutions are making similar efforts. The Hesperian of Nebraska State University, the best edited student paper in the West, is quite radical in its opinions about frateruities. It says: "We believe them to be inimical to the true interests of college life, detrimental to the welfare of those within the fraternities, as well as to those without. They foster jealousy, sentimentality, and effeminacy. They produce strife, not friendship; bigotry, not liberality. They mistake gall and vivacity for brains and perseverance. Independence and free self-development is as foreign to them as generosity and frankness. For these and other reasons, we shall do all we can to encourage the open literary societies and oppose their avowed enemies, the 'frats.' "

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week-day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical ex ercises of the third- and fourth-year classes. Once a week all the classes meet, in their class rooms, for exercise in elocution and cor-

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use The Altha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening

Every Friday evening a students' prayer-meeting is held in a College society room, led by a member of the Faculty. On the Sabbath, students are expected to attend service at least once in the different churches of the city.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College. Once in each term the College Hall is opened for a social gather

ing of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

The appended hint for the amateur horse-buyers is credited to the St. Louis Globe-Democrat: "Always have him led down a steep or stony descent at the end of a halter, and with no whip near. Many horses when brought out of the stable are excited by presence of strangers, and become still more so at the sight of a whip. A slight lameness may therefore be momentarily overlooked by the horse himself, just as a man, under strong excitement, will sometimes forget a sore foot. Leading the horse down a slope will show any defect in his forequarters, and running him back will develop any weakness that may exist in his hind legs. Horse sharpers know these facts, so if the horse is in the least affected they generally avoid a hill when showing off to a probable purcnaser."

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

R. WHARI'ON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

GROCERIES.

R. HOPSON & CO., Dealers in Staple and Fancy Groceries, Country Produce, etc. Fruits in their season a specialty. 228 Poyntz Ave.

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Q. A. SHELDON, "the Jeweler," Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

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W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J.WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for al rates, which may be learned, photographs, enue. Examine the new "aristo" photographs, gallery on Poyntz Avenue. unequaled for beauty of finish.

BOOTS AND SHOES.

ANNUAL CHEAP COUNTER.-We give no chromos, punch no trickets, but sell shoes from 25 cents to 50 cents a pair cheaper than those who do, thereby saving you that much clean cash. Look at the Cheap Counter; everything \$ 1.00 a pair. REHFELD'S SHOE

REBATE TICKETS given on all cash sales. For tickets amounting to \$5 00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and I strictly first-class. Special attention will be given to student trade. Prizes that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

HUNTRESS, Dry Goods, Groceries, Queensware. Free de-livery. Prices always as low as good business methods will warrant. The trade of Professors, Students, and all connected with the College especially solicited.

B. PURCELL, Corner of Povntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge. B. PURCELL, Corner of Povntz Avenue and Second Street, has

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Commissioner
Bills against the College should be presented monthly, and, when audi ed, are paid at the office of the Treasurer in Manhattan.
All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applica-

tions for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The Industrialist may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Application. for Farmers' Institutes should be addressed, as early not he season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

III. THE INDUSTRIES AND THE INDUSTRIAL CLASSES.

BY PROF. F. H. WHITE.

IN preceding articles an attempt was made to I give a condensed account of the industries and the industrial classes in prehistoric times, and when the civilization of ancient Egypt was at its height. Turning now to the west and to the Teutonic family of nations, let us make a short study of the life of

THE NORTHMEN.

This remarkable people, inhabiting the region bordering upon the North and Baltic Seas, are acquiring more and more interest for historians as new light is thrown upon their civilization. No longer thought of as mere savages, hard drinkers, and fierce fighters, they are taking their rightful place as a civilized people whose institutions and acquirements command our respect, and reveal to us clearly the origin of much that we prize in our own character, government, and arts.

Comparative archæology is nearly ready to say with certainty that the ancestors of the Northmen once lived near the Black Sea, and probably came in contact with the Greeks; for an examination of the graves, ornaments, written characters, and the customs and traditions of the two people make such a conclusion almost irresistible.

Among the Northmen, we find three social classes—the high-born, the free-men, and the thralls. It is not meant that the three classes at all times and in all places remained absolutely fixed; that there was no shading of one into another: but it is asserted that throughout their entire history there appears a class holding land by inheritance, given special consideration and honor because of birth, and exercising authority in the state; and there were also freemen who, because of coming later into the political family, and thus failing to obtain a share in the original division of the land, had but little influence in political matters, hired their services to others, and were not held in high regard. Then, too, there were the thralls, slaves because captured in war, or sold by the state on account of crimes.

No doubt at first all the freemen met in assembly and expressed their approval or disapproval of measures submitted to them by the king; but, as an authority points out, the tendency of a complete expansion of the suffrage is often to throw the government into the hands of the few, for by reason of the distance from the place of meeting, entailing expense and loss of time, only the class that has leisure and wealth can afford to go. So we find as the years went by the assemblies came to be attended only by the highborn, and the general affairs of government passed into their hands.

The possession of a considerable strip of seacoast cannot be sufficient in itself to make a seafaring people. The ancient Britons had as much as the English of today, but what a difference as respects their use of it. One of the remarkable characteristics of Old England and New England has been love for a sea-faring life. This same passion for the roving, adventurous life of the sea is even more clearly revealed in the history of the Northmen. Review some of their numerous expeditions. We hear of conquests and discoveries in England, France, Ireland, and the New World. Without compass, and with vessels very small in comparison with those of the present day, they braved the storms that swept over the North Atlantic. An injustice would be done them, however, if we supposed their only use for the ocean was an easy highway to some one else's possessions, or to scenes of adventure and discovery;

they were great fishermen, as this extract from a "saga," or story, of a typical Northman indicates: "Thorolf had a large long-ship made with a dragon's head, and had it fitted out in the best manner. He sailed in it southward, and made a great sweep of the provisions then found in Halogaland. He also sent men herring fishing, and in many places seals were caught and eggs taken; all the produce of this expedition was brought to

A feature well worth noting in their industrial life was the high regard in which labor was held -no matter how wealthy a man might be, no matter how high in authority, he was not ashamed of manual toil, and though most of his time would necessarily be spent in superintending and directing the work of his employes, yet he did not think it beneath his dignity to help whenever there was need. The following extract from a "saga" not only shows this, but also the number of enterprises one person might have on hand, and mentions their chief occupations: "Skallagrim was a very hard-working man. He had always many men with him, and had fetched many of the provisions and means of subsistence, for at first they had but few catttle in comparison with what was needed for so many. His cattle found their own food during the winter in the forests. He was a great shipwright, and there was no want of drifttimber west of Myrar. He had a boer built at Alp-tanes, and had another household there; his men went out fishing, seal-catching, and egggathering from there, as there was a quantity of these things; he also had drift-timber brought in. Many whales were there then, and they could shoot as many as they wanted, for the creatures were not used to men. He had a third boer near the sea, . . . there he had grain grown. . . . Skallagrim also had his men up at the salmon rivers to fish. . . . Then he set up a household in Knarrarnes, and then had a farm for a long time after. He was a great iron smith, and used much red iron ore during the winter."

A large number of articles, useful and ornamental, have been unearthed in the regions inhabited by the Northmen, and are now in various museums of Europe. A study of these things as pictured in such a work as "The Viking Age," enables us to form the conclusion that they commenced their artistic life by working in stone, horn, and bone, and continued it later in bronze, and finally used iron. Steady progress is observable until finally a remarkable proficiency in casting metals is attained. Their method is thus described: "The model was sometimes made of wax, and clay put around it; the bronze was cast into the mold thus made, and the wax melted into the mold, which afterward was broken in order to take out the sword or object manufactured."

Perhaps the two most important factors in increasing the returns for labor and capital expended are inventions and the division of labor. In the articles prserved no devices indicating the possession of much originality are shown, though a few are ingenious and perhaps may be considered the first fruits of that remarkable mechanical ability which characterizes their descendants in England and America. Although the Northmen had not carried out the idea of division of labor very fully, it is evident that some recognized its importance and organized their working force accordingly; for instance, one of the "sagas" relates: "King Sigurd Syr was on his field when the messengers came to him. many men there; some cut corn, others tied it [into sheaves], others drove corn home, others stowed it in hay-houses or barns. He and two men with him walked sometimes on the field, sometimes where the corn was stacked."

The limits of this article make it impossible to do more than suggest a few of the striking facts in the life of these people who have influenced English and American civilization so deeply. All those interested are referred for more complete information to the work, "The Viking Age," by Paul Du Chaillu, which contains translations of portions of a large number of the sagas, and excellent pictures of the more important objects of interest that have come down to our times.

EXAMINATION DAY.

BY GRACE M. CLARK, '92.

E XAMINATION day is not pleasant to the majority of students. It is least pleasant to the person who is coming to school just to graduate, and considers his studies a necessary evil to be endured before graduating. It is most pleasant to the student who is coming to school to develop his powers, and who makes every day a rigid examination of his work.

As examination comes to us six times a year, it will pay us to try to find the cause of its unpleasantness, and the remedy. In the first place, the unusual work of writing four or five consecutive hours is tiresome. As we can't convince the Faculty that oral examinations are always practicable and preferable, our best remedy for this tiresomeness is to begin the day rested. But we don't always do that.

It seems to me that most of us attach too much relative importance to these examinations. This idea of their importance begets anxiety, which begets a "cram" the night before examination, which begets nervousness, which begets failure to do our best work, which begets a low grade, which begets the idea that examinations are planned "just to make us fail." Remedy: consider examinations a part only of the term's work, and not very much greater than all the rest put together. Distribute that anxiety somewhat, making sure that the first three weeks of the term get a fair share. Then the anxiety will not interfere with any night's rest, especially not with that of the night before examination.

But there is another cause of poor work on examination day, which operates through the whole term's work, though the recognition of it, like most people's knowledge of the difference between mushrooms and toadstools, comes too late to be of much use. That cause is our failure to get hold of principles. In mathematics, where the most failures occur, we make the mistake of treating the problem as if it were more important than the principle which underlies it. In some of our text-books, these principles are printed in italics, to make them emphatic, and, as italics are not easily read, we skip them. In other books, they are printed in big type, with plenty of space between them, on a page all by themselves. The page looks very much like the one in our first reader devoted to cat literature, and we use our reasoning powers just about as much on one as we did on the other.

The principles are usually followed by a few worked-out problems. These problems are intended to make connection between the principles and the problems that follow, but somehow we miss connection at the first end. We worry through the problems, with the help of the worked-out ones and such other help as we can get, and when we get the answer to a hard one we transfer our work carefully to our scratch-books, to be preserved till we pass in that study. The principles—are they not recorded in our text-books? And there they remain. But it

would pay us to get them into our minds, if only to save time in solving the problems, to say nothing of passing examination.

Then, in the natural sciences, we fail to apply principles in classifying what we have to remember. We can memorize a long string of names, or keep a thousand documents in order, without any attention to classification. But very few people would try to do the latter. We and the Chinese try to do the former; but if we have too many long strings of names in our memory on examination day, the strings get tangled and broken. Find what those names mean; they usually have a real connection with the distinguishing characteristics of the plant or animal the name belongs to, and the characteristics will tell where on the string the name belongs. Then group the names, so many denoting such general characteristics, and you can hardly forget them if you try.

If we have very good memories for the problems and the names, we can remain in blissful ignorance of the principles, and still pass the examination, provided the examination comes out of the book. But if the teacher has the new-fangled notion that examinations should test our knowledge of principles and our ability to apply them independently—well, the examination will not be pleasant.

OUR BOOK FRIENDS

BY SUSIE HALL, '93.

WE often hear the old adage, that a person is known by the society he keeps; and this is as true of our book friends as of our human friends. If we associate with the lower class of authors we are apt to become like them—of no use to any one; while if we associate with the higher class, as Milton, Shakespeare, Macauley, and many others, our thoughts will become broader and higher, our intellects better developed, and our whole self be made better for thinking the thoughts of these great men.

But these are by no means among our first friends, they must come after a great many others before we can fully appreciate them; for as our minds develop our taste for books constantly changes. Any one can note this change for himself if he will take some book and with pencil and paper note some passages which seem to him most interesting. If a year later, during which time he has been reading other books equally as good, he will try again with the same book he will find that other passages will be the ones most interesting now.

I have heard it said that a person should not read a book in which he is not interested, for it will do him very little good. This is true; but we should not leave a good book simply for this reason. If we first find some thought in which we can become interested, we can be gradually led up to the higher ones. Some think this process of gradually refining the taste too slow, and start at once with some of the higher books, but soon give up in despair.

Some do not like history; they say it is nearly all dates and bare facts. If they find one which has fewer facts, but with more of interest about each item, they soon change their mind. History shows us how we may profit by the experience of others; mathematics develops our reasoning powers: in literature, we are shown the manners and customs of our own and other nations, while in poetry especially our love of the beautiful is satisfied; fiction in its higher forms should not be omitted, essays and travels might be added. When can we find a better time for developing this taste than while at college, and to what better use could we put our spare moments, if we have any? Among the writings of both the past and the present we may find some of our truest and best friends, who will never change.

THE TRUE LADY. BY SUSIE A. NOYES, '92.

If you were to ask your friends or associates what qualities were possessed by a perfect lady, it would, no doubt, be difficult to answer, so many and varied are the styles we meet; and yet each one carries his own ideal.

It may be possible to find a true lady in any community, and she may be recognized by her gentleness, by the quiet dignity of self-respect which enters into all her actions, and which is the foundation for all further development; by it hope is awakened, and the other faculties are stimulated to do their best in order to maintain this self-respect. There is no counterfeit in the true lady; she is as she seems to be, her speech and her actions accord with her words, and are in unison with her thoughts.

Her usefulness is apparent in the privacy of her own home, as well as the social gathering, or public assembly.

Truthfulness, integrity, and goodness have been called the essence of manly character, and I see no reason why they do not apply as well to the ideal lady.

It is more usual to find the true lady in communities which afford the means of culture and education, but she is not restricted to these localities. Indeed, the one who, regardless of environments, can do patiently and well whatever falls to her lot, and has a firm purpose that reaches after better things, is already in a fair way to become a genuine lady; she has already the foundation for a noble character. Her victory is greater than if she had been placed in favorable circumstances.

On the other hand, the girl who has the advantages of education and culture, society and home influences, is far from becoming the true lady if she neglects these opportunities. Very few, if any, ever reach their ideal; for as they approach nearer, it advances in proportion. Yet it is the privilege as well as the duty of every girl to become more and more like her ideal. She may be greatly helped in this attempt, by first of all, directing and controling her thoughts. For as she thinks so is she, and if the thoughts are pure and good the words and acts will be pure and good also. Anything which influences the thoughts, whether the books read, the places frequented, or companions chosen, they must be of the best. The true lady will discriminate between the good and the evil, and her character will grow accordingly.

MUST STUDY THE BUSINESS.

One thing should be chalked down and remembered by every farmer who is engaged in dairying or thinks of engaging in it. He will never make a profitable success unless he is a close student of the business. Unless he is willing to read, think, and study, and that, too, right hard, but few dollars will go into his pocket through the cow. Look about in every dairy community and you will see that the most money per cow is made by the men who put the most brains into their dairy work. A man may make some money out of a poor cow, even, by starving his mind and the minds of his family. We suppose rag-pickers make some money, but how do they live? The American dairyman ought to live like an American citizen.

We agree with the New England Farmer that there is nothing mean in true economy, for economy is the best use of one's powers. But sometimes expenditure is economy. It is no waste of time to attend farmer's conventions. They help men to think well, and if we look back through all agricultural processes and improvements, we shall find at the other end somebody has done some good thinking. It never wastes time to use it sharpening tools; it pays. It is economy to subscribe for several agricultural papers, not to read all there is in each thoroughly, but to browse among them for helpful suggestions. Persons sometimes say they have more papers than they can "read thoroughly," but there is hardly a paper in existence that one should read in such a way.—Mirror and Farmer.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 - 93.

Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

The rainfall of Saturday and Sunday amounted to almost two inchs.

The pay-roll for students and men for February amounted to \$588.06.

Prof. and Mrs. Georgeson will entertain the class in Agriculture next Wednesday evening.

Thursday, April 7th, has been designated by the Governor as Arbor Day. Plant a tree then.

The museum has received a fine specimen of Hydro-cephalas in a colt, the gift of Dr. L. H.

The class in Mineralogy spent the afternoon of yesterday in collecting under the direction of Assistant Breese.

Prof. Hitchcock has rented the Snow property on College Hill, and expects to occupy it about the first of April.

Owing to the illness of his oldest son, Lloyd. Secretary Graham was delayed over Monday at Menoken on his return from the Constant Insti-

Prof. Walters has been confined to his room for three days by a gathering in his face. R. C. Hunter, Fourth-year, had charge of the drawing

Mr. and Mrs. J. D. Allen, of Blue Springs, Nebraska, visit the College today with much of interest in the expectation of making Manhattan their home.

Mr. R. Broadbent, of Beloit, visited his brother, a First-year student, on Monday, and spent part of the day inspecting the various industrial departments.

Mr. W. Marlatt, of College Hill, is a victim of the daily newspaper portrait, what purports to be his likeness having appeared in last Sunday's Kansas City Times.

Secretary Mohler and Commissioner Smith will be at Manhattan March 19th, to stir up the farmers of the neighborhood to provide material for the Columbian Exposition.

The balloon ascension and parachute drop at City Park on Tuesday afternoon had its attraction for students, as well as other people. A large crowd was in attendance.

The city teachers are preparing an entertainment for Friday evening, March 25th, the proceeds of which are to swell the total of the World's Fair Educational Exhibit fund.

Secretary Graham had the pleasure of visiting at Constant an old college-mate in the person of Mr. John C. Snyder, well and favorably known as among the largest breeders of poultry in Kan-

The Chairman of the Constant Farmers' Institute is the father of Elihu Anderson, who was a Second-year in 1884-85, and who is now in the U. S. Navy on board the receiving ship "St. Louis."

Doctors Hunter, Cook, Eisenhour, Nott, Walch and McCosy, of the State Veterinary Medical Association, visited the College on Thursday afternoon, and were much pleased with the good work being done in the various departments.

Last week's Kansas Farmer gives room to four articles regarding the work of the College men-Prof. Failyer's sorghum analysis, Prof. Georgeson's feeding experiment, Prof. Kellerman's treatment of smuts, and Mr. Shelton's experience with strawberries.

On a recent visit to Burlington, Coffey County, we were pleased to meet an old College friend in the person of C. O. Smith, editor and proprie-

tor of the Republican, the leading paper in that place. In 1875-6 Mr. Smith was an apprentice in the Industrialist office, at the Agricultural College, taking meanwhile the regular course of study in that institution. Having known him thoroughly at that time, we were not surprised to find him doing work worthy of himself in the great world's school.-Manhattan Republic.

Something of the value which attaches to the Experiment Station publications in the minds of some may be inferred from the fact that the writer of a request for bulletins took the pains to register his letter to the Secretary at an extra expense of ten cents.

The Chemical Department of the Experiment Station is receiving many requests for seed of the good varieties of sorghum grown last year. These are in response to a note to Bulletin 25, offering to send a small quantity of these seeds to such farmers as send a two-cent stamp.

Acting upon the recommendation of the Committee on Athletics, the Faculty will make provision at once for calisthenic exercises for such of the young ladies as desire them. Exercises will be under the direction of Miss Fairchild, and will be held daily from 8 to 8:30 in the forenoon, and at the "fifth hour" on four days in the week.

In an editorial headed "Kansas Farmers' Institutes," in the last number of the Kansas Farmer, we find the following statement: "Further, it is known that under the law only a limited number of institutes can in one year secure the valuable assistance from the Agricultural College or other official source." This is an error. There is no law bearing upon the subject of farmers' institutes in Kansas. Owing to the limited number of college workers who can attend farmers' institutes, and to the desirability of extending their usefulness over as large a portion of the State as possible, it has been the custom of the college authorities, for many years past, to decline invitations to assist in farmers' institutes held in any county in two consecutive years. When possible the College assists in institutes in localities where none have been held before, and is always willing to assist in the same locality a second time after the lapse of one year. This is solely a matter of arrangement, and not a matter of law at all.

The Farmers' Institute at Constant, last week, was a grand-success. In spite of a continuous and heavy downpour of rain during the Institute, and the meetings of two county and three church organizations, the large Grange hall was filled with interested, wide-awake, and intelligent farmers and their wives. This institute proved peculiar in the large proportion of ladies in attendance and in the fact that every person present was a farmer. The business-like methods of the officers, the active participation by all in the discussions, the cordiality with which our College representatives were welcomed, and the bountiful banquet provided in the hall by the ladies, conspired to offset the depressing influence of the "beastly" weather, and to send all away with the feeling that it was good to have been there. A permanent organization was effected, and it is proposed to hold regular meetings hereafter at which the true interests of the farmer, outside of politics and religion, shall be discussed. Prof. Walters discussed "Gumption in Business;" Prof. Georgeson, "Scientific Stock Feeding;" and Secretary Graham, "An Education to the Useful."

The Chemical Department of the Experiment Station has just issued a letter circular to sugarbeet growers, with the following introductory statement, which is self-explanatory: "We are preparing to repeat our tests of the adaptability of Kansas climate and soils for producing sugar beets of proper quality for sugar making. We hope to have more favorable conditions for the trial this year than last. Our last year's result will be sent you soon. The season was generally unfavorable, and the test not so satisfactory as we could wish. Will you aid us this year by growing a small plot according to the directions below? They are based upon European experience and practice. The best sugar beets are less than two pounds in weight, are long and tapering, and grow entirely under the ground. The seed will be sent in due time for planting. Before the beets are mature, you will receive instructions for selecting a sample. It may be sent us at our expense. The beets should be left undisturbed until you receive these instructions. After the sample of a dozen or less beets has been secured, the remainder are at the disposal of the grower." Instructions for growing beets are given.

GRADUATES AND STUDENTS.

Frank Lenk, student in 1886-7, died last week at his home in Alma.

E. Marshall, Second-year, left College last week for Spring work.

H. W. Stone, with the class of '89 up to its graduation, hopes to complete the course during the spring term.

Ellen and Hugo Halstead were called home vesterday by telegram to the death-bed of Grandfather Sikes.

T. C. Davis, '91, at work on the home farm, Benedict, Wilson County, is visiting College friends for a few days.

C. A. Campbell, '91, has returned from Golden, Colorado, where he has been teaching. He expects to spend several months at home in Manhattan.

W. T. Swingle, '90, is the author of Farmers' Bulletin No. 5, issued by the U. S. Department of Agriculture and entitled "Treatment of Smuts of Oats and Wheat."

In a copy of the North Star, published February 15th, at Sitka, Alaska, we find the following: "The Training School was pleased to see among the "Topeka's" passengers Mr. and Mrs. Clark. Mr. Clark is teacher and disciplinarian, and will also direct the band."

COLLEGE ORGANIZATIONS

Student Editors.-B. H. Pugh, F. C. Sears, May Secrest, Scientific Club.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lott e J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory

Webster Society.—President, F. C. Sears; Vice-President, E. W Reed; Recording Secretary, R. C. Harner; Corresponding Secretary, E. M. S. Curtis; Treasurer, F. W. Ames; Critic, L. S. Harner; Marshal, T. W. Morse.

March 4th.

Society called to order by President Secrest. Music, violin solo, C. E. Abell. Prayer, Kate Oldnam. E. J. Hartzlee and L. Keeler were then made members. Following this were two select readings by Ellen Halste d and W. Harling. The question, "Resolved that the sentence passed by the Chilian government on the Perpetrators of the Baltimore affair was just," was argued on the allirmative by Lizzie adwards and C. Buck, on the negative by E. A. Gardiner and Selma Lund. The judges, S. S. Harner, C. E. Abell, and P. E. Westgate, decided unanimously in favor of the negative. The Gleaner, presented by Maggie Stewart, was one of the bast of its kind. The editorial on the monuments of the Alpha Beta Society was especially interesting. Other interesting articles were: A Loving Man," "A Journey Through Indian Territory," The College Yell," "The Blighted Youth." Recess Instrumental music, solo, Selma Lund. Hugo Halstead gave a very interesting news report. Smith Norton gave a discussion on Oleom agarine, J. T. Thoburn discussed "Literary Policies." after which followed a lively discussion on the subject. The usual amount of business followed. Society adjourned at 4:30.

March 5th,

March 5th.

President Sears called the Websters to order. Roll call. The Secretary read the minutes of the previous meeting. E. A. Clark led in prayer. The order of debate was passed for reasons that seemed justifiable. The programme was opened with a declanation from M. W. McCrea. on 'Important Things," followed with a declanation by E. G. Gibson, 'E. D. Call., 'E. C. Trembly then read an essay on 'First year Rhetoricus,' and L. W. Hays one on 'A Trip to Fort Riley". J. M. Todd favored us with a select reading, after which J. W. Evans read a discussion on the construction of bridges, and H. L. Coleman gave the news of the week, which closed the program. Under unfinished and new business, a large amount of important and practical business was transacted, among which was the report of the Board which showed that the Society coffers would be replenished at some more co-venient season when more important business was finished. During the evening we enjoyed a pleasant at some more to ventent season when more important business was finished. During the evening we enjoyed a pleasant visit from our friendly neighboring society, the "Hamiltons," and had a pleasant and profitable time, by respiving ourselves into a committee of the whole and discussing, among other onblocks the advisability of formula of the combined of the season when the combined of the combined into a committee of the whole and discussing, among other subjects, the advisability of forming a new society from members of the two societies. After about an hours pleasant discussion, the Hamiltons went back to their bed in the loft, and we went back to business, till 193) when we adjourned, feeling we had had an average good session, and that the time had been well spent though we did have to wak through the mud and rain, and that we would next have to "Homoward plod our weary way" before we'd go to sleep. Mc. W. Mc., Sec. pro tem.

March 5th.

The Hamilton Society was called to order by President Wildin. Thirty two Hamiltons answered to roll-call, and more came in later, a though the night was very storm. J. L. McDowell led Society in Prayer. The office of Vice-President being vacant, nominations were made to fill it. J. A. Rokes was elected. The program of the evening was next taken up. An oration by J. L. McDowell, entitled "Orphan Boys of the U. S.," showed much study and preparation and was well delivered. Mr. Joss then did credit to himself in an oration on "Effects of Bad Habits." He showed among other things the evils resulting from the use of liquor and tobacco. The Debate, "Should Prohibition be made an issue in the coming campaign?" was opened by Mr. Wickman. Ist It is a question that can be setted only by political discussion. Politics concerns itself about the wellare of the country, and as prohibition affects the nation it is a political question. It affects the country by affecting the citizens of the country, financially, socially, morally, and politically. The loss to the people last year from drink was \$474.000,000. With open saloons, etc., our society is abused by increasing the class of drunkards and criminals. These persons by their influence lessen the security of our homes and our property. Vice and crime are also engendered by them. The central organizations of the liquor traffic work together and radiate their influence to all parts of the country. homes and our property. Vice and crime are also engendered by them. The central organizations of the liquor traffic work together and radiate their influence to ail parts of the country. They control to some extent the elections, and put in office those men who are in sympathy with their traffic. Thus good government is impossible. As long as the liquor men remain as they are now we shall have poverty and vice. Mr. Persinger replied by saying that it should not be a political issue because it was a state right and should be dealt with by the states. It would be the death of either of the strongest parties to take stand on the prohibition question. The money spent for liquor is kept in circulation and is not the cause of as much suffering as the hoarded up treasure of the money kings. The Society next took up unfinished business and went into a committee of the whole to consider the programme to be held between the two Societies. The programme for a special session was afterwards reported and adopted. The programme of the evening was resumed, and Messrs Bryan and Broadbait gave declamations. Mr. Axtell gave a very amusing essay on "A Hamilton at the World's Fair." Mr. Carnahan also gave a good one on "Cork." Extemporaneous speaking was indulged in for some time, and the Society adjourned.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Student Joseph Green, of Beloit, won the first prize in a surgery contest at Rush Medical College, Chicago.

The election held in Coffeyville for the purpose of voting \$15,000 bonds to build a high school building resulted in a defeat of the proposition.

The Baker Beacon wants the students and graduates of Baker University to organize an endowment fund association. The plan is to pledge each student to contribute five dollars annually for ten years. The scheme is endorsed by President Quayle.

Superintendent Winans has completed the work of figuring out the proper apportionment of the permanent school fund to the various counties of the State. The total amount to be distributed this year is \$263,421.66, and the school population of the State is 497,022, thus allowing a per capita of 53 cents. Nine counties have 10,000 or more of school population. They are Shawnee, 17,053; Wyandotte, 16,820; Sedgwick, 13,404; Leavenworth, 12,427; Cowley, 11,459; Crawford, 11,312; Sumner, 10,784; Cherokee, 10,253, and Bourbon, 10,133. The counties with smallest number of school age are Morton, 183, and Garfield, 223. The warrants will be sent out during the week.

The catalogue of the State University is now in the hands of the State Printer, and will be ready for distribution early this week. It will show some very gratifying figures in regard to the attendance during the present school year. Although the preparatory department is no longer connected with the University, the attendance this year is greatly in advance of any previous year, the actual attendance at the University being 630, and including the university-extension pupils, 981. Of this total number, the extension pupils number 351; engineering, 88; music and arts, 112; pharmacy, 41; law, 78; school of arts, 283; post graduates, 29. The senior class this year contains 24; junior class, 47; sophomore class, 51; freshman class, 102. The credit enrollment of the extension course shows an enrollment of eight at Olathe, 63 at Topeka, 22 at Wichita, and 284 at Kansas City, Mo. Besides the total of extension students enrolled for credit, 540 others are in regular attendance on the lectures of the courses. The counties furnishing the largest number of students, outside of Douglas county, are in order: Shawnee, Sedgwick, Johnson, Leavenworth, Wyandotte, Atchison, Brown, Cloud, Doniphan, Franklin, Jefferson, and McPherson. The faculty now numbers forty-four. The estimated value of the entire material equipment of the University is \$619,000; \$38,000 in the building and \$261,000 in department aparatus, etc., including the general library of 16,217 volumes. The natural history cabinet collection contains 150.000 specimens of botany, history, and zoology. -Topeka Capital.

DON'T DAWDLE.

The word "dawdle" means to waste time, to trifle. When a boy does a thing in a slack. lazy way, he "dawdles" over it. It is a bad thing to fall into a dawdling way. It helps to make a boy unmanly, and a girl unwomanly. The dawdler's life is apt to be a failure. He does little for himself or for others. "In books, or work, or healthful play," he doesn't amount to much.

Don't dawdle. Do things with a will, and do them well. You must not splutter or be fussy over your work. Have a quick eye, and a ready hand, and a patient heart always.

If you have an hour in which to do a half hour's work, do it in the half hour. Get through on time, then play with briskness and sparkling enjoyment. Do your errands promptly. Brush your hair with a lively hand. Sweep your room with a lively broom. Take the degree of D. D.—don't dawdle.

Some wise and good person has said: "Don't make your minds sponges, saturated with the putrid waters of the goose pond of gossip. Hear as little as you possibly can to the predjudice of others; believe nothing of the kind, unless you are forced to believe it; never circulate or approve of those who circulate loose reports; moderate, as far as you can, the censure of others; always believe that, if the other side were heard, a very different account would be given of the matter."

THE COMING FARMER.

One of the great changes observable in the agricultural and stock-breeding world, that portion of it, indeed, which may be called intelligent, is in the character of the business the coming man is drifting into. It may be possible to teach an old dog new tricks, and as well to get the fathers out of the old ways; but the young men, as they mature and take hold of life and life's business, have already planted in their minds a dread of the extreme drudgery of the farm and an earnest hope to avoid it in so far as their conduct of business is concerned. It is not a dislike of work so much as an abhorence of unending toil for very small returns such as they have been parties to under the old regime. The young farmers just now coming to the front have, as a rule, more intelligence than those of fifty years ago, and a better education; newspapers are vastly more abundant, and very low in price; they moreover manage to secure the best thoughts, the latest experiments of the most advanced farmers of the day, and set them before their readers in acceptable form. This has been going on for more then a generation, and the young men have grown up readers of these, as from week to week they were brought to their homes.

It has been measurably impossible to make much impression on the minds of aged readers, though to their credit be it said that many of them have been able to discover in the new the better way, and improved thereby; but the younger men have become imbued with the idea of seeding down to grass and to permanent pasture much of the land; of using more ingenious means and methods of recuperating the land by fertilizers; of making more manure on the farm; of growing more clover and other green manures for the purpose, and finally of conducting the business in such a way that the main crops produced shall be consumed on the farm and be carried away in the form of horses, cattle, sheep, or swine. When, therefore, these men take charge of the old farms, a wonderful change will be surely discovered in the methods of handling them and managing the products.

This is, in a measure, discoverable even now. Look at our own pages for example. The horse is to the fore-front to-day. Why? Because we have made a new horse, one adapted to nearly every kind and character of business in this country, and as well for the most pleasurable and healthful of entertainment and exercise known to man. Railroads, and steam generally, are doing the long draft hauling; electricity and other machinery have done the same for city travel; hence the scrub horse and the equally scrub mule are being dispensed with, and every man wants a horse that is in keeping with the age and that can get over the ground.

But again: Young, enterprising men realize that they can afford no longer to raised good corn and poor cattle, because the poor farmers can raise enough poor cattle to flood the markets, depress prices, and make hardly the shadow of a living by it. They have to breed to the best improved stock and use only the best of grades in doing so. Then, if they must raise corn, they will do it on land well plowed and manured, land that is made to alternate with green crops that can be plowed under, and, thus recouped, produce from 75 to 125 bushels to the acre, and every stalk harvested, cut up and saved for roughness through the winter, when stock has to be fed in the barn instead of the stalk fields as of yore.

No well-conducted farm in the future will be without a barn capable of holding the cattle to be fed, and as well the feed and fodder saved with which to feed them. With a cutting machine outside to cut into three-quarter inch lengths both stalk and corn, and to it attached an elevator to carry it into the barn, five hundred tons of the best feed for fattening cattle may be housed and safely stored from a very small field, enough to feed all the srock raised on a moderate-sized farm.

This involves the use of full-blooded males, no matter what the kind of stock, be it cattle, sheep, siwne, or horses; and the nearer the females can be had of similar character the better. Then may we have 1,400 lb. steers at two years of age, 120 to 200 lb. wethers at the same time, hogs weighing 225 to 250 lbs. at nine months, and colts of size and quality at four years old worth two or three times the money of those now generally raised.

Of course this line of thought might be extended to every department of farm work. We have but skimmed the surface, and told what may and will be done, with little by good management. There is no money in farming, but there is good pay and

fortune to the man who, with brains and energy, will see the opportunity and embrace it.— Colman's Rural World.

Those who are successful are those who never lose sight of the fact that the farm is a home; that everything done toward beautifying and improving the place is enhancing the value. With this fact uppermost as it should be farm work becomes a labor of love—something more than a dollar and cent struggle. Farm life should be the happiest existence in the world, and the pleasant impressions of the dear old homestead should de made so deep that they will always be remembered.—

Farm and Home.

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By

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The INDUSTRIALIST may be addressed through Fres. Geo. T Fair-child, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Application: 'or Farmers' Institutes should be addressed, as early n the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

FARMERS' INSTITUTE NOTES

BY SECY. I. D. GRAHAM.

PERSON who makes an occasional trip by A rail in Kansas may learn a great deal if he keeps his eyes open and ears alert for material facts which everywhere present themselves to him. He may learn that our State is an empire whose magnitude cannot be comprehended except by personal observation, and whose industries are as many and varied as are the demands of her people.

The dominant industry is of course agriculture, and this, from the variety of climatic and other conditions, has attained a wonderful development and possesses wonderful possibilities. The first step in the development of this agriculture is very likely to be made in the direction of an attempt to raise a single crop. Large areas of Kansas are devoted almost entirely to wheat-raising, and little else is attempted until some one discovers that he can enlarge his income by the raising of something else, and then the period of diversified farming begins, and with it comes greater prosperity.

Recent visits to Harper and Cowley counties disclosed the fact that a large share of the plow land of these counties is sown to wheat; and the question, Why do all the farmers raise wheat? was invariably answered by the statement that it is a more certain crop than corn. Sorghum, alfalfa, and other crops of undoubted value had proved successful wherever tried, but had not been very generally planted. Cattle-raising is a good business for those who engage in it, but they are few. Poultry-raising, dairying, and fruit-growing are profitable to the few who attempt them, and horse-raising brings good returns.

WHEAT-RAISING.

A very intelligent farmer who is a close hand at figuring gave some interesting facts regarding wheat-raising in Southern Kansas. He finds that for the past fifteen years the average yield has been fifteen bushels per acre. This wheat costs to raise and market, about \$9.00 per acre, or 60 cents per bushel. This cost per acre ought to be the maximum, though it might be profitably increased in some instances.

He adds a few "don'ts" of value. Don't sow the same ground to wheat year after year without manure. Don't buy expensive manufactured fertilizers when home-made ones are wasting. Don't allow wheat to get too ripe before cutting, as this shatters out the profits. Don't depend entirely upon a header; have a dropper and a cradle somewhere in the neighborhood for use in wet weather. Don't leave wheat standing in the shock too long. Put it in a stack and be independent of the thresher, and do the stacking yourself. Don't thresh too early. Early-threshed wheat is sure to sweat in the bin and get full of bugs. Don't market surplus because of lack of granary room. Build more bins. And lastly, don't market good wheat for less than seventy cents a bushel.

After years of wheat-growing these southern counties are now fairly awake to the fact that they are possessed of a wonderful soil and climate for fruit-raising. Harper County peaches and Sumner County peaches have come to be recognized brands upon the market; and they are well worthy of it. An orchardist of many years gave as his experience that it is better to plant one-year-old trees than older ones, because of better and more vigorous growth. Always buy from reliable dealers, has been his motto. For an apple orchard in this section, he names as his first choice the Missouri Pippin, Ben Davis, Willow Twig, Smith's Cider, Baldwin, Winesap, Kansas Keeper. For cherries, the Early Richmond, English Mur-

rillo, and Montmorenci. Plums, except wild ones, and apricots fail because of insect pests. He sprays his apples but once a year, and this when the apples are about the size of a pea.

Two excellent papers upon this subject unite in the testimony that the Plymoth Rock is the best "all round" fowl for the farmer. They are good and regular layers, good mothers, and the best to market. A light-colored cock should always be selected, or the breed becomes too dark in color. Warm quarters, plentifully whitewashed and well lighted, together with a warm feed in the morning are essential in winter. Corn is a heat-producing food, not an egg producer, and should be used as a part of the winter feed, but not exclusively. For laying hens, wheat for albumen, meat for yolk, and lime for shell are necessary food elements. For the money invested, the hen is the most profitable animal on the farm, and a hundred of them will supply the farm with eggs and chickens for the table and net the owner at least one dollar per head profit per annum.

ENSILAGE.

Ensilage is used by but few farmers here, and the silo is found a most profitable means of saving a crop in a dry year. In a good corn year, when corn is cheap, it does not prove profitable for general stock feeding, though good at all times for milch cows. Horses should be fed a minimum ration or none; hogs more.

Hogs do not pay in a wheat country, though some farmers make money off them, and nearly all keep a few.

ALFALFA.

This is generally believed to be a good crop, though tried by but few. It has proved a surprising success upon the sandy soil of south central Kansas wherever tried. Three crops the first year and good hog pasture all winter were not uncommon results among the experimenters.

EVERYDAY FRIENDS.

BY LAURA G. DAY, '93.

IT has been rightly said, "He that delighteth in I solitude is either a wild beast or a god;" for since the creation of man there has been an intense longing in human nature for companionship. That we all should desire friends is natural, and the art of winning them is recognized as one of the happiest talents to be possessed. Nor can we exercise this ability too early in life. Indeed, our earliest friendships are the most lasting, and the ones from which we derive the most enjoyment. In our early years, we accept our friendships as a part of the goods which the world owes us; in our older years, we study our associates so keenly that we must be positive that no deception lurking behind their kindness, before we receive them as friends.

There are friends and friends. They may easily be separated into two classes—the real friends, and those whose regard for you is based upon your share of the world's riches or the popularity which you may enjoy. The friends belonging to the latter class are numerous, but their attachments are subject to strange variations, and are in reality but the out-come of selfish motives. Perhaps the less said of them the better; but we shall do well to remember that their good will is preferable to their ill will. Real friends, unlike pretenders, are as precious jewels—rarely found.

Friendship is not manufactured by exact rule; but the many little thoughtful acts, the cheerful face, the loving heart, directed by a wise tact, will not only win it, but will also retain it. How to gain disapproval is still more easily shown: be indifferent, cold, proud, selfish, ill-tempered, and the result is soon accomplished.

Having won our friends, we must direct our efforts towards keeping them. One duty to be learned is, that although there is no greater pleasure than being with those whom we admire and respect, even this may be overdone. Solomon says: "Withdraw thy foot from thy neighbor's house, lest he weary of thee and so hate thee."

Another duty which we owe our friends is to stand by them, if in their absence others speak ill of them. Nothing is so despicable as the lukewarm friendship which sits silent under such circumstances.

Probably our friends will often disappoint us. They will show many peculiarities of which we have never dreamed. Perhaps it will aid us to remember that we, ourselves, are far from perfect. Remember, too, if we wait for a perfect friend, we shall die friendless. Then if, after our best efforts neither to offend nor to annoy, all does not go smoothly, a little convenient blindness or deafness will help us out wonderfully.

SORGHUM IN 1891. BY PROF. J. T. WILLARD.

BULLETIN 25, recently issued by the Experiment Station, details the results obtained in the work of the Chemical Department upon sorghum during the season of 1891. A statement of the most interesting of these may not be out of place here.

The season was the most favorable for sorghum that we have had for some years. The months of May, June, and July were amply supplied with rain, which gave us a splendid growth of cane. The two succeeding months were rather dry, which promoted the concentration of sugar in the juice. The final product was a heavy tonnage of sorghum, containing a large percentage of juice rich in cane sugar. Our experience seems to have been somewhat exceptional; as Hon. Geo. F. Kellogg, in his report as State Sugar Inspector, states that "The average quality of the cane for the season was lower at all of the factories than last year."

The number of varieties grown last season was less than in former years, attention being chiefly directed toward improvement of well-known sorts of good quality. To this end large numbers of stalks were examined singly. The plan for the past four years has been to analyze single stalks of the several varieties; and by planting the seed of the best, to attempt to establish strains which should be superior to any yet known. The results are such as to lend encouragement to the belief that sorghum can be improved by seed selection. Last year nearly thirteen hundred canes were examined singly, and sixty-six were analyzed. The highest percentages of cane sugar found in a few of the vaieties was as follows: Undendebule, 18.95; Kansas Orange, 18.59; Cross of Orange and Amber, 18.25; Medium Orange, 17.84; Link's Hybrid, 17.41: Unkunjana, 16.94; Cross of Orange and Link's, 16.83; Early Amber, 16.48.

The analyses of samples containing ten or more canes show somewhat lower results; but even then some strikingly high figures were obtained. For example: Undendebule, 17.68; Cross of Orange and Amber, 17.07; Kansas Orange, 16.82; Medium Orange, 16.58; and Link's Hybrid, 16.37. No results equal to those have been obtained in former years.

The high quality of the cane is further exemplified by fifteen analyses of sorghum grown for the purpose of testing several fertilizers. The fertilized plats alternated with unfertilized ones, and the effect of the fertilizers was so slight as to be an uncertain quantity. Samples consisting of ten consecutive hills were taken from each plat, the

whole aggregating nearly five hundred pounds of dressed (i. e., stripped and topped) cane. The average percentage of cane sugar in these samples was 16.6; and of other sugars, 1.04. The variety was Kansas Orange; and the results could doubtless have been duplicated on any of the farms around here last season.

In respect to the test with fertilizers, as hinted above, the results were negative. The plat treated with Chili saltpeter showed nearly one per cent more of cane sugar than the mean of the untreated plats on each side. The experiment will be continued in the future, and it is hoped that interesting results may be obtained.

AN OUNCE OF PREVENTION.

BY DR. N. S. MAYO.

THE time of year is now approaching which to the practicing veterinarian may be considered as a sort of harvest time, for in the next three months he expects to do a large share of his year's work, because there will be a larger number of sick animals.

There are several causes for this large amount of sickness among animals. Among them are sudden changes of the weather, the condition of animals after the winter's keep—either too thin or too fat, the overworking of animals not used to it, and not in proper condition. Then, too, it is the season of the year when many young animals are born, with their resulting ills and mishaps.

Of the diseases which are affected by changes of the weather, "distemper" is quite important. It is undoubtedly a germ disease which usually attacks colts, similar to measles in children, the changes of the weather and unthrifty condition of colts in the spring acting as predisposing causes. As soon as a colt contracts this disease, he should be placed in a warm and dry place, and blanketed, given a laxative diet—such as bran-mashes, roots, etc., oats, bright hay, and plenty of good water. Good nursing will do a great deal towards mitigating the disease.

We also expect to get many cases of lung disease, caused principally by allowing horses to stand in a draught while very warm. Horses, when first put to work in the spring, sweat with little exertion, so great care should be taken not to warm an animal up and allow it to stand in a cool place. Care and a good blanket will prevent a majority of lung troubles in horses.

Sore shoulders, or collar galls, so prevalent in spring, can be prevented largely by seeing that the collar fits properly. Don't think because it worked all right last year it will this; know that it fits, and is smooth on the shoulder surface. While the horse is at work, lift the collar frequently and keep the mane from working under it. Washing the shoulders in cold water and rubbing them dry at noon and night is an excellent preventive. Scrape all collections of dirt from the collar every time it is put on.

"Scratches," or "grease heel," is common in spring, caused by standing in mud or filth; this causes an inflammation in the oil glands situated in the hollow above the toot, and is often difficult to cure. It is also caused by perspiration running down the back of the leg and drying in the back of the heel. This disease is easily prevented by keeping the heels clean and giving the animal a dry stall to stand in. With horses that are predisposed to this disease, a little carbolized lard or vaseline rubbed in the heels is excellent.

Horses that are very fat are liable to congestion of the lungs when called on to exert themselves. Fat horses are also liable to a rather peculiar disease called Azoturia, which manifests itself by paralysis of one or both hind legs. It usually occurs while the animal is exercising, soon after being taken out of the stable. This disease only occurs in plethoric horses and after a period of rest. Plethoric

horses are also subject to itchy skin diseases after being warmed up.

There is quite a common practice among farmers of fattening their horses preparatory to the spring work. This is not a good plan. A fat horse is not in good condition to work, and is more liable to disease. A horse that is in a fair to good condition will do more work, and do it easier, and is a stronger and healthier horse than is a fat one. What is true of a fat horse is equally true of a thin one. A horse for the spring work should be in good condition, and put to his work gradually.

This article is not to be understood as discountenancing the employment of a qualified veterinarian, but rather the opposite, and to show where care will save a good deal of money for the treatment of those cases that cannot be prevented. Good care will prevent one half the diseases of domestic animals, and good nursing will do more toward saving the sick ones than any other one thing.

CARE OF FARM MACHINERY.

BY L. C. CRINER, '92.

THERE is nothing more important to be learned by a young man who intends to make farming his occupation, than the care of farm machinery. If he cannot get the necessary training at home, he should attend some school where he can.

It requires but little time to clean a hoe or a spade and put it in its proper place, where it will be easily found, and in good condition. Indeed, a good farmer can be detected by the brightness and sharpness of his spades and hoes with as much certainty as you can detect a good carpenter by the condition of his planes, chisels, and saws.

If machinery has not a soul, or feeling, it does have value; and the sooner a man learns to respect that value the sooner he will be on the road to success. If men value only that which is bought as they do money, which buys, there would be a vast amount of wealth saved that is now destroyed. A farmer will carefully lay his pocketbook under his pillow, lest it catch cold from the chilliness of the night. The next day he'll use the same money to purchase a binder, which he brings home and leaves in the yard, apparently to look at, with no protection whatever from a climate that gives changes in temperature from 25° below zero to 100° above, accompanied often by wind which varies from seven to sixty miles an hour. A man who would throw his pocket-book where he last had occasion to use it, and leave it there to be exposed to all kinds of weather, would be considered irrational. Yet men do as careless an act when they leave their tools out where they are exposed to the rains, snows, and winds.

An hour or two in the fall spent in giving the cultivator shovels and the mould-boards of plows and listers a coat of paint will prevent rust, save much time in the spring which is usually occupied with "scouring," and enable a person to do much better work and more of it.

Some men think it too expensive to build sheds for machinery. They do not realize that it is more expensive to do without them. It isn't the two weeks' running every year for five or six years that wears out a binder: it is the exposure to changeable Kansas weather.

If you have occasion to travel over a man's farm, and find the hoe quietly resting on a potato hill in the garden, in a far-away corner of the place, you may find the mowing machine at the exact spot where it was left when the owner was called to dinner the year before. Continue the search, and in another part of the farm you will find the corn-planter trying to enjoy itself under the shade and protection of a wire fence; and on returning to the house, you will find the binder busily engaged in performing the functions of a chicken roost. Before you leave, make a note of the man's name, because you will hear from him again; for nothing but Providence and Egyptian soil can keep him out of the poor-house.

1891-92.
Fall Term—September 10th to December 18th
Winter Term—January 5th to March 25th.
Spring Term—March 28th to June 8th.
June 8th, Commencement.

182-93.
Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Prepare for Kansas Arbor Day, April 7th.

Prof. Hitchcock's family came last Saturday.

Prof. Brown spends Sunday at Leavenwoth.

Mrs. Thompson and children are visiting in Newton.

A girl baby was born Feb. 29th to Mr. and Mrs. McCreary.

Another large lot of public documents were recieved yesterday for the library.

Mrs. Kedzie lectured at Osborne yesterday in the course arranged by Principal Olin for the city schools.

Mrs. C. C. Gardiner, of Bradford, is visiting her children, Mrs. J. T. Willard and E. A. and Maud Gardiner.

Sweet strains from a large music box formed an entertaining prelude to the chapel exercises yesterday afternoon.

The College Orchestra is practicing for the Speer-Winans Association, which meets in Manhattan, April 1st and 2nd.

Prof. and Mrs. Mayo have the pleasure of a visit from his mother, Mrs. Mayo, of Battle Creek, Michigan. She will remain some weeks.

Prof. Walters has accepted an invitation to deliver the address in connection with the graduating exercises of the Randolph Schools on May 6th.

The Printing Department has published fifteen plates of Prof. Walters' Freehand Drawing for use this term, and about the same number will be needed for the Spring term.

Prof. Hood's brother Ernest, of Indianapolis, is here for a visit. He was compelled by failing eyesight to drop his studies in Rose Polytechnic Institute at Terre Haute.

The Downs Times has frequent letters from "Student," describing the various departments of the College with interest and accuracy. Other students might do good work for their neighbors and the College by similar letters.

The Adjutant General has decided that every military college receiving arms and ammunition from the National Government for the purpose of instruction, and to which an officer of the United States Army has been detailed as Professor of Military Tactics, must display the national flag on all occasions when, under army regulations, the use of a flag is called for.

The Third Division of the Third-year Class entertained the Chapel audience yesterday afternoon in the presentation of the foliowing programme: A. S. Houghton, "Religious Persecution in France;" Margaret E. Horn, "Americanize the Foreigner;" M. F. Hulett, "Platforms and Principles;" Fred. Hulse, "What One Person Accomplished;" Onie Hulett, "Appreciation of the Beautiful;" Chas. R. Hutchings, "Our Naturalization Laws."

Last Wednesday evening the members of the Agriculture and Cooking classes, numbering about one hundred, were entertained by Prof. and Mrs. Georgeson. The early part of the evening was spent by the young gentlemen in making bonnets for the young ladies, while the ladies fashioned neckties for them. Most of the bonnets proved to be wonders of millinery art, while many of the neckties, though not so elaborate, were fully as wonderful. Mrs. Kedzie and the post-graduate girls served the refreshments, which, of course, were excellent. The remainder of the evening was spent in having a social time and collecting autographs. All went home thanking Prof. and Mrs. Georgeson for the pleasant evening they had fur-

nished, only regretting that the Second-year party is one of the things that come but once in a lifetime.

Invocation.

AddressFrance, and Her Impulsive Career
B. H. Pugh.

Piano Duet.......Overture
Debate—Are the Present Tendencies toward Centralization of
Our Government Commendable?
R. C. Harner. Albert Dickens.

Scenes-Before and After.

Music Committee, E. L. Platt.

GRADUATES AND STUDENTS.

F. M. Lins cott, '91, is spending a few days in Manhattan.

B. D. Haller, First-year, is called home by the sickness of his father.

The selection of speakers for Commencement will probably be made next week.

L. Olmstead, Third-year, showed his brother from Arizona the sights this week.

W. S. Robb, E. E. Schmitz, G. V. McKeever, First-year students, drop out to work.

A. O. Wright, '91, returned on Monday from Burr Oak, where he has been teaching.

Callie Conwell, '91, is teaching a three-months' school in her home district across the Kansas.

Mary E. Willard, Second-year, was called

home on Tuesday by the illness of her mother.

Mary Frazier, Second-year student last year, vis-

ited friends at the College several days this week.

J. F. Odle, Second-year in 1890-91, teaching

in Eureka Valley, visited the College this forenoon.

F. S. Little, Fourth-year, is seriously ill of

pleurisy. He has been absent from College all the week.

J. N. Bridgman, '91, was called away on Wednesday by the serious illness of his mother at Rochester, Ohio.

R. L. Wallis, Fourth-year, received the sad news of his father's death on Tuesday. Mr. Wallis' mother died while he was a Second-year.

Word comes from Topeka announcing the advent of a third daughter into the family of E. H. and Ada Quinby-Perry, both of the class of '86.

Lottie J. Short, '91, had full practice in her post-graduate work in cooking this week in managing the class and lunch in Mrs. Kedzie's absence.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the ability to use his chances well.

THE SPRING TERM.

The classes of the Spring Term of ten weeks, beginning March 28th, will be those of the new course in first-year, and those of the old course in classes above the first-year. Special classes in Book-keeping, Arithmetic, English Grammar, and Geography will be continued through the year. Students preparing to enter the Secondyear classes next September will do well to enter now to complete Algebra, begin Botany, and take the special study in English with Word Analysis. Classes in drawing will be open to special students, as well as advanced courses in the sciences. Teachers who wish to pursue Chemistry further than most schools allow can enter classes in Analytical Chemistry upon passing examination in Elementary Chemistry. The machine shop will be open to those who have had the required training in wood-work. The farm and garden industrial training will be better equipped and organized with instructors than ever before, with the expectation of giving the present Second-year class a fair introduction to the Agricultural and Horticultural Departments. An advanced class in Cooking will be maintained, while the regular Second-year class in Dairying follows the winter term of cooking as usual.

COURSE OF STUDY.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside.

Each student is expected to take three studies besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two, but fuller explanations are found under the Outline of Instruction.

FIRST YEAR.

FALL TERM:
Algebra.
English Analysis.
Geometrical Drawing.
Industrial.

WINTER TERM: Algebra.
English Composition.
Book-keeping.
Free-hand Drawing three times a week.
Industrial.

Spring term: Algebra.
English Structure.
Botany.
Industrial (Carpentry or Sewing.)

SECOND YEAR.

FALL TERM: Geometry.

Flowentary Chemistry.

FALL TERM: Geometry. Elementary Chemistry. Horticulture. Industrial.

WINTER TERM: Geometry completed, Projection Drawing.
Agriculture or Household Economy.
Organic Chemistry and Mineralogy.
Twelve Lectures in Military Science.
Industrial (Cooking.)

Spring Term: Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial (Farm and Garden or Dairy.)

THIRD YEAR.

FALL TERM: Trigonometry and Surveying.
Agricultural Chemistry.
General History.
Industrial (Farm and Garden.)

WINTER TERM: Mechanics.

Constitutional History and Civil Government.

ment.
Rhetoric.
Industrial.
SPRING TERM: Civil Engineering or Hygiene.

Physics.
English Literature.
Perspective Drawing two hours a week;
Drafting two hours.
Industrial.

FOURTH YEAR.

FALL TERM: Agriculture or Literature.
Physics and Meteorology.
Psychology.
Industrial.

WINTER TERM: Logic, Deductive and Inductive.

Industrial.

WINTER TERM: Logic, Deductive and Inductive.
Zoology.
Structural Botany.
Veterinary Science or Floriculture.
Industrial.

Industrial.

SPRING TERM: Geology.
Political Economy.
An elective in Agriculture, Horticulture,
Mechanics, or related sciences.
Industrial.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Profs. Canfield and Sayers of the State University intend to "do" Europe during the summer vacation.

The North-East Kansas Teachers' Association will hold its annual meeting at Leavenworth on May 5th, 6th, and 7th.

Col. W. H. Rossington, a well-known Topeka lawyer, has presented the State University with 143 volumes of the Bohn standard library.

Supt. M. Chidester, of the Cawker City school, has been appointed Superintendent of the Indian School of Hoppa agency, California. His merited advancement is a severe loss to the State.

State Superintendent Winans has appointed Mr. Frank W. Stout as his assistant, to fill the place made vacant by the death of Mr. Harkins. He was second clerk in the office during the last three years.

The Cremonia school house was struck by lightning just after the close of school, and none but the teacher and one little girl were in the house. The lightning struck the flue, throwing bricks across the road and knocking out both gable ends of the building. Running down the stove pipe, it burnt off the rubbers from Mr. Filson's feet. As he was standing near the stove at the time the current ran down his leg and into his rubbers. The little child was badly shocked, but as soon as she could collect herself ran out for help, and upon returning found Mr. Filson uninjured except by the shock. The school house looked like a ruin, but the wonderful escape of Mr. Filson and the child is providential.—Chanute Vidette-Times.

The third term of the Art School of the Kansas State Art Association opened Monday, March 14th, 1892, and will continue till June 3rd. The School has made very satisfactory progress during the past five years, being conducted upon true artistic principles. Pupils who have attended eastern schools after a course at Topeka have found that they were able to rank with the eastern scholars. In order to enable the principal to devote more time to advancee pupils, the increased attendance demanding it, Miss Lou Mattoon and Miss Katharine Whiting have been engaged as assistants in the first and second grades. Mechanical Drawing, Modeling, and China Painting will be introduced, and will hereafter be regular features of the School. The School has commodious and attractive quarters, reached by an elevator, in a suite of four north-lighted rooms in the Crawford building, corner of Fifth and Jackson Streets, and has a very full line of figures, busts, geometrical and flower and fruit pieces, and other accessories. Aside from the pecuniary advantage of an artist's education, the effect of the artistic training will be felt all through life—in the increased powers of perception and appreciation, and in the consequent refinement of all one's surroundings. The tuition is \$15 per term of twelve weeks, payable in advance. The courses cover four full terms, or grades. Communications should be addressed to Prof. G. E. Hopkins, Principal.

If the implements used last summer and fall were not long ago carefully put under shelter, their owner is losing more than he can make by any carelessness in other matters. It is not the use that most tools get that makes their service short lived, but the waste of rust which goes on all the year, unless they are cared for as they should be.—American Homestead.

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In Mitchell county they grew, the past season about 26.000 bushels of apples, 15,000 bushels of peaches, 1,000 bushels of pelumbs, 2,000 bushels of cherries, 500 bushels of apricots, sixty tons of grapes, besides a corresponding amount of small fruits, and this is practically the products from orchards of six to twelve years' planting.—Beloit Paper.

The Garden City Sentinel says Hon. D. M. Frost received eighty live quals from Medicine Lodge a couple of weeks ago. The quails were divided up into bunches and released on the farms of Lee Doty, James Craig, the United States Experimental Farm, Squire Worrel, and several others. Every one should take the pains to protect these birds as far as possible and give them a chance to multiply. The gentlemen interested in the matter have been to considerable expense and bother to get the birds, and should be heartily commended for the enterprise.

KINDRED INSTITUTIONS.

The Second Annual Report of the Utah Station is at hand.

Part IV. of the Annual Report of the Maine Station, at Orono, for 1890 is just received.

The Fourth Annual Report of the Georgia Station at Experiment is at hand.

Bulletin No. 1, of the Washington Station at Pullman is devoted entirely to announcements.

Bulletin No. 37 of the Meteorological Observatory of the Hatch Station of Massachusetts is received.

Farmers' Bulletin No. 6, by the U. S. Department of Agriculture gives instructions for the cultivation and curing of tobacco.

The Alabama Station, Auburn, reports upon experiments with Cotton in Bulletin No. 33, and upon Glanders in Bulletin No. 35.

"Cabbage, Cauliflower, and Tomatoes" are reported upon in Bulletin No. 30, New Series, of the New York State Station, Geneva.

A Special Report of the Chief of the United States Weather Bureau records the work previously done and makes announcements for the future.

Bulletin No. 96 of the California Station, Berkeley, deals in sulphuring in fruit drying, fig trees at the Experiment Station, and Notes on Persian palms.

Ontario Station, Guelph Ontario, Cana., reports in bulletin No. 121, upon experiments with spring grains and in bulletin No. 122, upon roots, potatoes, and fodder corn.

Bulletin No. 21 of the Nebraska Station (No. 3 of the sugar beet series) reports upon experiments in the culture of the sugar beet in Nebraska. The Station is located at Lincoln.

Aside from notices, corrections, etc., Bulletin No. 110 of the Connecticut Station, New Haven, is devoted to the sampling and analysis of, and substitutes for, "Canada Ashes."

"Report of Farmers' Institute held at Colton, Washington," is the title of Bulletin No. 2, of the Washington Station, at Pullman. It contains four papers read at this institute, and a list of those in attendance.

Augustus Storrs, the founder of the Storrs Agricultural School in Connecticut, died on March 3, at his home in Mansfield Conn. At the time of his death he was 74 year of age and was formerly a staunch friend of Henry Ward Beecher, to whose church he belonged.

Bulletin No. 17 of the Georgia Station deals with experiment with Irish potates, sweet potatoes, tomatoes, and forage plants. It is interesting to note the statement that the cow pea is the most valuable of the forage plants for the Southern States.

From far-off Australia comes a large bulletin giving a report of a Conference on Rust in Wheat held in Sidney, N. S. W. in June last. Victoria, South Australia, Queensland, and New South Wales were represented in conference by two delegates each.

Statistician Dodge of the U. S. Department of Agriculture adds interesting matter to his Report on the crops of the year in the form of a series of charts showing the departures of temperature and rainfall from the normal and of county maps of some of the Winter-wheat States.

The Monthly Weather Review is a publication issued by the U. S. Department of Agriculture under the directions of Mark W. Harrington, Chief of the Weather Bureau. The numbers for August, September, October, and November 1891 are at hand and will prove valuable in our library.

With the compliments of J. M. Rusk, Secretary of Agriculture, come the Sixth and Seventh Annual Reports of the Bureau of Animal Industry. Texas cattle fever, swine diseases, glanders, hog cholera, tuberculosis, pneumonia, and cattle and meat inspection are some of the subjects reported upon.

"Farm notes for 1891" is the title of Bulletin No. 19 of the Nebraska Station, Lincoln. Wheat, rye, field corn, Osier willows, flax for fiber, sorghum, sweet potatoes, Irish potatoes, peanuts, onions, Chinese potato bulblets, Stachys tubers, grasses and clover, broom, kaffir and Jerusalem corn are subjects reported upon.

The farmer of the future will be a man of brains rather than muscle; he will be a man of capacity -mental capacity-and breadth rather than a contracted chatter-box on the "four corners;" he will be a student; he will be a man of culture and endowed with fine sensibilities; he will be a husband and a father such as all true women picture in their happiest moods. He will be a man whom the politician and the legislators will feel it an honor to consult. It has always been a mystery to us that so few farmers have any adaquate conception of the possibilities of their calling. It is strange that there is such a complete absence of enthusiasm and interest. Strange it is, that it should be looked upon as a last resort or a stepping stone. This is not as it should be. — Junction City Trib-

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MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

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BY THE PRINTING DEPARTMENT,

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Bills against the College should be presented monthly, and, when audi ed, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. Child, Managing Editor. Subscriptions are received by Supt.

Donations for the Library or Museums should be sent to the rian, or to Prof. Mayo, Chairman of Committee on Museums Questions, scientific or practical, concerning the different ments of study or work, may be addressed to the several Pro and Superintendents.

General information concerning the College and its work actualize

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early not be season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

The Experiment Station should be addressed through the Secretary,

GOOD ROADS.

BY PROF. D. E. LANTZ.

() N every hand there is evidence of increased interest in the improvement of our country highways. The farmers all over the country are discussing ways and means of obtaining better roads. One of the practical movements is the formation of improvement clubs similar in aim to the old "Village Improvement Societies" which accomplish so much in our urban cummunities, and for whose work there is still great need. One of the important objects of the clubs is the education of people in matters of taste as to their homes and surroundings. The improvement of public highways falls naturally within the scope of their work. The advantage of the clubs is that they interest the people of the villages to co-operate with those on our farms in the matter of securing better highways.

Several of the agricultural experiment stations have published bulletins giving information as to things practical in road making. Although not properly a field for experiment by the stations, I know of no subject upon which more valuable information could be given to the people of a State than this. A mere statement of the provisions of existing laws on the subject, and a pointing out of the principal defects in those laws would be useful. Then, the plain statement by a practical engineer of the best methods of laying out roads, securing drainage, and treating the surface, with a list of things not to do, would be welcomed not so much by the road supervisors of the State as by the people at large. It would enable them to find out causes for the present poor condition of the roads; and a knowledge of such causes would soon lead to discovery of the proper remedies.

Among the signs which indicate a greater interest in the matter of road improvement are the spirited discussions of the topic in our agricultural journals, the valuable contributions to the permanent literature of the subject in our leading journals and magazines, and the apparently successful maintenance of an illustrated magazine entirely devoted to it. This magazine, called Good Roads, is issued monthly by the League Road Improvement Bureau, from the Potter Building, New York City, and the subscription price is \$2.00 a year. The first number appeared in 1892, and gives promise of a wide field of usefulness. Its illustrations are especially valuable, because they enable those who have not traveled extensively to see by strong contrast the difference between good and bad roads. The journal reprints the valuable pamphlet, "The Gospel of Good Roads," by Isaac B. Potter, which has already done much good among the people, it having been widely circulated by the League of American Wineelman.

It seems to the writer proper to warn our most enthusiastic highway reformers, that merely to reform the present waste in expenditures for maintenance, or to change the laws for road management, is not sufficient to secure the best results. A much more radical reform is necessary. Our roads are not properly located, and there are far too many of them. The present mileage of public highways in Kansas is probably fifty per cent greater than will be demanded by the conditions

the trade for the next fifty years. Nearly every ns'.ip has more miles of road to maintain than the to have. If the amount now spent annual-I len ald be paid as a tax, and a portion of it exed economically on a less mileage of roads ch were originally well built, more than half ot it could be placed in a sinking fund for the payment of the first cost of coustruction.

It is with full knowledge that a radical change

in our road management is required, and that system must take the place of our present methods, that the principal writers and agitators of reform have gone to work. Senator William P. Richardson has twice introduced a bill in the State Legislature of New York providing for the appointment of a commission on State roads, and giving them full authority to locate and construct such highways as shall facilitate communication between the larger cities of the State. Gen. Roy Stone has advocated a national commission to formulate rules and gather information on road construction. A national school of roads and bridges, with a provision for branches in the various agricultural colleges and experiment stations, is a part of his

People are indeed beginning to realize that road building is something more than popular ignorance has in the past considered it to be. Engineering skill is as much a requirement in constructing a highway for wagons as in building a railway.

HELP IN THE STUDY OF AGRICULTURE.

All students of agriculture and horticulture and the sciences which are applied to their development will be interested in the new plans undertaken by the office of Experiment Stations, United States Department of Agriculture. This office has, ever since its establishment, been of the utmost benefit to the agricultural student. In the Experiment Station Records published periodically is given a resume as fast as they appear of all the bulletins of the experiment stations of the United States and Canada, with some of the best from foreign stations. The student can then, with this in hand, see at once what work has been done along any line which he may at the time be following. He has there an abstract of the results, and can often, without looking further, be put in possession of the data for which he is seeking.

All this matter is made more readily available by the publication once a year of a general index to all the abstracts made during the year. This index will give one, then, the key to all the work of all the experiment stations for the preceding year.

Now, to further extend the usefulness of the experiment station work, the office of experiment stations has begun the issue of a card catalogue. In this separate cards of the standard size used in all library catalogues are given to each subject. Each index card will contain the title of an article, the name of its author, a reference to the publication in which it appeared, and to the Experiment Station Record where it was reviewed, and a condensed statement of its contents. One set of these cards will be sent as fast as published to each of the agricultural colleges and experiment stations in the United States. They can there be distributed readily into the general card catalogue, and will serve thereafter to direct every inquirer to all the items of a mass of carefully recorded and carefully made observations such as was never before opened to the use of anybody any where in th world. Why, Alladin's lamp, were it a fact, would be as weak beside this new instrument of study as is the fiction of his power beside the reality of that in this charm that we have. He rubbe his lamp, and had a four-story brown stone f at. We open the catalogue, and have all the accumulated knowledge of years.

Just what it all means is hard for anyone to understand who has not had some experience in this sort of study. The greatest help will come, of course, to those who deal most with such records. The professor of agriculture preparing lectures for his classes, and his classes preparing essays for him; the experimentor comparing previous experiments to see what has been done and what remains to do; the agricultural editor writing an editorial in which he desires to give his readers the information to be had on the subject; the farmer preparing a paper for the institute or an article for the agricultural journal—all these people will find such a help as this beyond all computation of good to them.

As a rapidly increasing percentage of the farmers are being educated in the agricultural colleges, this new provision for greater efficiency of work at these institutions will be of special moment to them. This leads us to remark in closing that such helps as these will be more and more sought for as time goes on by the practical farmers themselves. Not that they will look in the bulletin index to see when they shall sow their oats; but they will know when to sow their oats by understanding thoroughly all the general principles involved, and to the index they will go for the exemplification of these general principles.—F. A. Waugh, '91, Agricultural Editor Kansas Capital.

SCIENCE IN FARMING.

The consideration of the present age is to learn how and why. Agriculture has come to emphatically mean more than mere vegetable products from the soil. In its modern meaning it now includes the production of meat, beef, pork, and mutton, of wool, of dairy products, milk, butter, and cheese, and of a better class of live stock than has been known. The farm is the raw material from which is to come the feod and clothes of all mankind.

A successful farmer should discover what materials a plant feeds on, and what plant food is in the soil. Such knowledge as this comes to us not by nature, but by most careful study, and we are coming to realize that the farmer must be a student as well as the truly honorable and honored "horny-handed son of toil." God could have told these things to us by our own language, but He speaks to us through nature, and we have but to study nature rightly to be able to dictate His writings. He has furnished raw material, and gives to man the intellect to use the same.

Science is classified education, and wisdom is its application. Study and learn the one and make use of the other. Let the agriculturist be prepared to utilize the very least discoveries. The inventor, the machinist, the alchemist, all who progress, even the burglar and counterfeiter, call on all the new features of science that may aid in their various vocations. Then why should not the farmer? But how can he apply these aids if he has no knowledge of their fundamental principles? Of all foolish men there are none so foolish as the farmer that refuses to use the discoveries of the scientist because he didn't swing an ax or drive a plow. Is a magician to be ignored when he brings truth to our aid, even though his voice may be feminine and his hands white?—Extract from address by State Secretary Ohio Farmers' Al-

PLAN FOR NEXT SEASON'S WORK.

On the farm where I reside the plans for 1892 crops are all in black and white. All needed manure fertilizers are bought and hauled, and the seed ordered. The first thing to decide is where to plant; the second what to plant. When these two questions are settled, the adaptation of the soil to the different crops should be considered and each crop should be placed in the most congenial soil. Secondary in importance comes convenience in cultivation and in harvesting.

Whenever practicable, plan to get two crops in the season. Plant every fourth row in your potatoes with squash. Clear off your early peas and plant with beets for winter use Secure a crop of grass June 20th, and then plow for ruta bagas and late cabbage.

Think over and decide just where and how much of each variety you will plant, then diagram your fields just as you have planned them, and in the space representing the ground for each crop write the variety and amount of land to be used.

Have a place for everything, and when spring comes lose no time in putting everything in its place.—Correspondent Our Grange Homes.

KINDRED INSTITUTIONS

The Tenth Annual Report of the Ohio Agriculturial Experiment Station, Columbus, is received.

"Sugar Experiments in Wisconsin for 1891" is the title of Bulletin No. 30 of the Wisconsin Station, Madison.

Statistician Dodge, in his report No. 93, shows consumption and distribution of wheat and corn and the wheat crop of the world.

Our thanks to principal W. F. Howard, of Lakin, for a copy of his "Regulations and Course of Study of the Public School" of his city.

"Potato Culture and Fertilization, and Tests of some Varieties of Tomatoes" is the subject of Bulletin No. 20 of West Virginia Station, Morgantown.

Dehorning, cream raising by cold deep setting, incorporating cream into cheese, the Babcock test and churn are subjects reported upon Bulletin No. 19, of the Minnesota Station, St. Anthony Park.

No. I of Vol. I. of the Cooper Courier, of Cooper Memorial College at Sterling, has reached our reading table. The paper is an eight-page quarterly, and its price, twenty-five cents a year.

Bulletin No. 2 of the C Experiment Farm, Ottawa, Can., includes testing the vitality of seeds, grain testing, potatoes, horticulture, and forestry. Bulletin No. 3 reports upon smuts effecting wheat.

Bulletin No. 15, of the Iowa Station, Ames, reports upon the growing of sugar beets and their diseases, injurious insects, soiling, time for sowing grass seed, winter wheat, best varieties of oats, and fertilizers.

The Transactions of the Massachusetts Horticultural Society for 1890, is a bulky pamphlet of nearly 400 pages of good food for horticulturalists. It is accompanied by a "Schedule of Prizes" offered by the Society for 1892.

Part I. of the Second Annual Report of the Rhode Island Agricultural School and Experiment Station is devoted to the work of the school alone, and contains reports of the Board and of the principal, together with a financial statement for the year.

The Annual Report of the Maryland Agricultural College, College Park, shows a total enrollment of 82 students, and an estimated income of \$65,945,00 for the present year for the college and Experiment Station. The institution prospers under the presidency of Maj. Henry E. Alvord.

The Journal of the Cincinnati Society of Nutural History for October, 1891, to January, 1892, contains papers upon North American Fungi, Manual of the Paleontology of the Cincinnati Group, Description of Some Sub-Carboniferous and Carboniferous Cephalopoda, Contributions to Indiana Herpetology, A Texas Wild Cat, and Zoological notes.

Bulletin No. 3 of the Utah Station, Logan, shows results of experiments with garden vegetables. Among those reported upon are 14 varieties of peas, 11 of radishes, 2 of lettuce, 7 of cabbage, 6 of cauliflower, 3 of beets, 1 of sweet corn, 2 of asparagus, 4 of squash, 5 of cucumbers, 7 of watermellons, and 9 of muskmelons, all of which were raised under irrigation.

The Government Station for the development of improved varieties of sorghum has finally been located at Sterling, after the apparatus had been reloaded on the cars and started for Medicine Lodge.

—Kansas Farmer.

We know many farmers who would object, and rightly, too, to work for others for \$1.50 a day, and yet they work for themselves every day, at good hard work that does not yield them 50 cents a day, and often neglect to do more work for themselves that would be worth from \$3 to \$5 a day. They call this tinkering, or slip-shod method of working economical.—Farm Life.

The "intelligent compositor" made the mistake of using a capital C instead of an O in the head-line "Field Experiments with Oats," and produced a line which embodies a good suggestion, if it does not represent the article in question. Field Experiments with Cats is a subject worthy the serious consideration of all lovers of birds, at least, and may prove valuable to others. Decomposed cats make good manure.

COURSE OF STUDY.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside.

Each student is expected to take three studies besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two, but fuller explanations are found under the Outline of Instruction.

FIRST VEAR

FALL TERM:
Algebra.
English Analysis.
Geometrical Drawing.
Industrial.

WINTER TERM: Algebra.
English Composition.

Book keeping.
Free-hand Drawing three times a week.
Industrial.

SPRING TERM: Algebra.

SPRING TERM: Algebra.
English Structure.
Botany.

Botany.
Industrial (Carpentry or Sewing.)
SECOND YEAR.

FALL TERM: Geometry.
Elementary Chemistry.
Horticulture.
Industrial.

WINTER TERM: Geometry completed, Projection Drawing.
Agriculture or Household Economy.
Organic Chemistry and Mineralogy.
Twelve Lectures in Milifary Science.
Industrial (Cooking.)

Spring Term: Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial (Farm and Garden or Dairy.)

Industrial (Farm and Gården or Dairy.
THIRD YEAR.

FALL TERM: Trigonometry and Surveying.
Agricultural Chemistry.
General History.
Industrial (Farm and Garden.)

WINTER TERM: Mechanics.
Constitutional History and Civil Government.
Rhetoric.
Industrial.

Spring Term: Civil Engineering or Hygiene.
Physics.
English Literature.
Perspective Drawing two hours a week;
Drafting two hours.

Drafting two hours.
Industrial.

FOURTH YEAR.
FALL TERM: Agriculture or Literature.

FALL TERM:

Agriculture or Literature.
Physics and Meteorology.
Psychology.
Industrial.

WINTER TERM: Logic, Deductive and Inductive.
Zoology.
Structural Botany.
Veterinary Science or Floriculture.
Industrial.

Spring Term: Geology.
Political Economy.
An elective in Agriculture, Horticulture
Mechanics, or related sciences.
Industrial.

Prof. Budd, of Ames, Iowa, gives the following as his method of destroying gophers at the college farm: We cut middling-sized potatoes into halves and rub the cut surfaces with strychnine crystals. These pieces are stuck firmly on the sharpened ends of stiff twigs about eighteen inches in length. As the burrows of the gopher are opened, a piece of potato is run in the length of the stick, the outer end being fastened by sticking it into the earth at the mouth of the hole. If the gopher finds the obstruction not easy to remove he gets a chance to taste the poisonous potato and pronounces it good. If put loosely into their runs they throw it out in nine cases out of ten untasted. We have had no trouble in clearing land of these mischievous rooteaters in less than one week.

Small farms usually pay best because as a rule the small leaks are stopped on them better. On large farms these small leaks (some not very small either) are usually considered not of much consequence, but when we come to put them together we find a large hole in our profit. Let any one think over this and he will find leaks enough to surprise him. We shall find that farmers who are crying "farming don't pay" either have not the means, or the ability, or maybe lack both; but by far the most are trying to spread too much. We sl'ill also find that, almost without exception, where a farmer has sufficient means and ability for his business, even if he is working but one acre, farming not only does pay, but pays better than almost any other business requiring no more means. -Live Stock Journal.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement.

1892 - 93. Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

A new catalogue case for the Experiment Station finds a place in the Library.

Regent Moore was at the College on Tuesday to attend a meeting of the Board Committee on Finances.

Prof. Georgeson reports the herd in excellent condition, and plenty of feed on hand to keep it until the grass starts.

Examinations never moved along more smoothly than they did Thursday and Friday, and grades are fully up to the average.

A new term begins Monday for a ten-weeks' stretch, which will be rounded up by the festivities of Commencement week.

* F. S. Little, Fourth-year, who is still very sick of pleurisy, has been treated with oxygen prepared at the College Laboratory.

The manure has been hauled out and spread regularly during the winter, thus saving the great waste by leakage in the barnyard.

Mrs. Perry Mayo, of Battle Creek, Michigan, visiting Dr. and Mrs. Mayo, gives a lecture today at an open meeting of the Manhattan Grange.

Regent Wheeler's paper on "General Farming," read before the Oskaloosa Institute, finds a place in the Kansas Capital of this week.

They were lucky girls who, by reason of their irregular course of study, enjoyed the privileges of both the Second-year and Third-year parties.

Mrs. Munger, of Eureka, is visiting her son in College. She spent Thursday at the College in company with Mrs. E. R. Drake, of Manhattan.

Mrs. Kedzie's special class in Cooking will furnish the Faculty with dinners during the first half of the Spring term for the usual considera-

Student editors for the Spring Term were elected Wednesday morning by ballot. Ora Wells, C. P. Hartley, and D. H. Otis were chosen.

Prof. Olin is one of the committee in charge of the entertainment to be given by the University Glee and Banjo Club at the opera house on April 1st.

About one-fourth of the students who have spent the winter term in College have gone home to begin spring work on the farm, hoping to return next year for further study.

Prof. White is on the programme of the Speer-Winans Association, meeting in Manhattan on April 1st and 2nd. He will read a paper on "Literary Culture for the Teacher."

The seeding of oats, interfered with by the rain of last night, will be resumed as soon as the ground is in condition. Thirty acres will be sown, and will, as heretofore, be under experi-

The Farm Department has just acquired a new saddle pony by exchange of a Jersey heifer. The pony is large enough to work in team in case of need, thus placing three spans of horses at the command of the Department.

The Ornithological Section occupied the programme of the Scientific Club at its session last evening. A paper was read by Secretary Graham on "The Game Birds of the West," and by Prof. Lantz on "Habits of Some of Our Native Birds." Many specimens of the feathered tribe from the Museum illustrated Secretary Graham's

In the public hour yesterday afternoon Prof. Popenoe interested the audience in a lecture dealing with the vertebrate fauna of Kansas, showing their distribution, and describing many

of the species. It was shown that by the overlapping of the eastern and western fauna districts in the State, and the near approach of the Austroriparian and Sonoran districts, Kansas was an especially favorable ground for collectors.

Since diversified music seems to have become popular in connection with the public rhetorical exercises on Friday afternoons, it has been suggested that Mr. Baxter's canary birds be given an opportunity to display their vocal powers.

A representative of a Kansas City publishing com my visited the College this week, and left several persons under the conviction that it 1 an easy matter for a man to buy what he doesn't want when it is offered to him on the installment plan.

Professor and Mrs. Hood entertained the Mechanics Class at their pleasant home on Friday evening in such a manner as will be remembered as one of the most enjoyable social events of the Class of '93. The manner of entertainment was unique and interesting. On entering the parlor each person was presented with a neatly-printed curriculum of the evening's programme, on each of which was written one side of an equasion illustrating some mechanical principle. To find the person holding the other side of the equasion came next in order. After persistent and finally successfully searching for the "hidden treasure," the ladies occupied some time in making neck-ties for their gentlemen friends, while the gentlemen exhibited ' ir skill, or rather their lack of skill, in hat to mming. It is needless to say that the millinery art has never viewed such sights since the days of long ago. Refreshments were served in the latter part of the evening, and it is putting it very mildly to say that they were appreciated. The time to depart arrived all too soon. After expressing their thanks to the host and hostess for the pleasant evening thus spent, the class separated for the night, feeling that for all their worry and toil over mechanics problems, they had been amply repaid.

NEW BULLETINS.

Bulletin No. 28, "Second Report on the Experimental Vineyard," is from the Horticultural Department. It gives supplemental notes on several varieties of grapes, with general observations; notes on spraying grapes; notes on bagging grapes.

Bulletin No. 29, treating of oats in a great variety of experiments in 1890, is printed and will be distributed next week.

Bulletin No. 30, giving a full account of the extensive tests of sugar-beet culture in different parts of the State, has gone to press this week, and will soon be issued to the public. The experiments will be repeated this year, and persons interested sufficiently to make a trial of the beet culture may address inquiries to Prof. G. H. Failyer.

GRADUATES AND STUDENTS.

Ella S. Child, '77, is Secretary of the Spear-Winans Association.

F. D. Robinson, student last year, died March 17th at his home in Cumberland, W. Va.

George E. Steen. student in 1886-7, is Clerk of the District Court at Mankato, Jewell county.

Z. E. Brown, student in 1888-9, writes from Holton that he is "still hopping counters for a living."

M. V. Hester, Third-year last term, is secretary of the Prohibition County Central Committee of Kiowa County.

H. S. Willard, '90, is one of the thirty-seven graduates of the University Medical College of Kansas City that were turned loose upon the public on Wednesday last.

W. S. Arbuthnot, '91, arrived at the College this morning for a few days' visit. He has just graduated from the Chicago Veterinary College, and will practice as soon as he decides upon a lo-

W. W. Robison. Second-year, drops out this week to take a situation on Vice-President Morten's farm under Manager H. M. Cottrell, '84. He hopes to return and finish the course in the near future.

Cards received announce the coming marriage of L. H. Simmons, Third-year in 1887-8, to Miss crest. The program opened with an instrumental solo by Mag-

Coquella Curry, at the bride's home in Springfield, Illinois. The ceremony will take place on March 31st, and Mr. and Mrs. Simmons will be at home in Wellington, Kansas, after April 10th.

S. H. Carnahan, student in 1883-4, remembers the college by sending from Walla Walla, Washington, the first two bulletins of the Washington Agricultural College, Experiment Station, and School of Science, located at Pullman.

F. M. Linscott, '91, after a term in the Toronto Veterinary College, is visiting home and college friends for a few days prior to entering upon a summer's practice with a veterinary surgeon at St. Joseph, Mo. He reports having visited G. E. Stoker, '90, now at Harvard University, and E. C. Thayer, '91, in Massachusetts School of Technology, during the holidays.

In years past it has been customary to devote but a few weeks to the study of veterinary science, but this year arrangements were made so that the study was taken up during the entire winter term. This is one of the most important changes that has been made for a long time. Whatever may be said by those who have some petty spite against the department, it is my opinion that there is no study in the course of more practical value to a young man who intends to make farming and stock raising his business, then veterinary science, and I am certain that all the members of the class will bear me out in this assertion. - College Correspondent of Kansas Capital.

COLLEGE ORGANIZATIONS

March 18th.

The Ionian Society was called to order by Pres. Wells. Singing, followed by prayer and roll call. First on the programme was a select reading by Daisy Day. Mable Selby edited and read the Oracle. after which Mary Lyman and Ione Dewey entertained the Society with a vocal duet. Hortensia Harmon opened the discussion on the question, "Competition in our colleges and schools." Olive Wilson gave the weekly news report. A quartet consisting of Misses Lyman, Lee, Dewey, and Wilson favored the Society with some good music. After some time spent in society business, the meeting adjourned. E. E. C.

March 19th. The Webster Society was reminded of the opening hour as the Recording Secretary sounded the gavel. Roll call showed 'a goodly number present. Devotion, C. Cole. Reading and adoption of minutes of previous meeting. The debate on the question, "Resolved that the adoption of Socialism would not be beneficial to the United States," was argued on the affirmative by J. M. Williams and E. W. Ginter, and on the negative by H. Gilkerson and J. U. Secrest. The affirmative argued that Socialism was the worst form of slavery. As competition was the life of trade, and stimulates ambition, it should not be done away with. The object in society was to give each man his proper sphere, and not to equalize. Socialism has been tried on the small scale and has not proven successful. The negative argued that by Socialism all would get their proper rank. All would do the work they were best fitted for. Competition works against his interests, by reducing his wages. If we had Socialism, competition would be done away with. Increase of production increases competition, and as we are rapidly progressing we should have Socialism to get rid of the dangers of excessive competition. The decision of the Society was with the affirmative. E. F. Kistler read an essay on "Trials of a New Student." C. F. Pfuetze produced a good number of the Reporter. After the presenting of the news of the week by E. H. Freeman and a discussion by A. C. Cutler, the Society took up the business of the evening, one transaction of which was the changing of the time of opening hour from 7:30 to 8:00 o'clcck E. M. S. C. Adjournment.

March 19th. Society opened with President Wildin in the chair. After roll-call, Mr. Wilkin led the Society in prayer. Mr. Emeric gave a declam tion entitled "The Moneyless Man." W. A. Schreechfield told us of "The Greatest Walk on Record." E. F. Fay, also, gave a declamation on "Happiness." Debate, "Resolved, That books are more beneficial than newspapers." Affirmative: Mr. Boardman showed how books are essential as a means of condensing and preserving knowledge, while newspapers contain nothing valuable that is not put into the form of books. Mr. Charles said that newspapers are filled with unimportant material, as accounts of murders, etc., that only meet the demand of the present. On the negative, Mr. Poole thought that advertisements, and accounts of births and marriages of more importance than some of our books, as dime novels, etc. Mr. Joss showed that the newspapers were the educators of today, as they are printed in plain, simple language, and are read by all classes; but the name "books" repels many who read the best of newspapers. Judges Dougherty, Wilkin, and Smith decided affirmatively. Mr. Otten gave an oration on "Electricity and its Appliances." Reading, by Mr. Smyth, "A Wedding in Wyoming." The news of the week was presented by Mr. Brown. C. P. Hartley next presented the Recorder-Motto, "Be Consistent." Editorial: "Warning to Hamiltons;" "The Webster Blow-out;" "The Burro and the College Yell;" "Evolution Theory of putting on a Shirt;" "Originality, Where Art Thou?" Poet's corner: "Tale of a Country Lover;" "Guard well your thoughts." A recess of ten minutes. After recess, Mr. Dowley, music committee, furnished some music by proxy. Uufinished and new business occupied considerable time, but a short time was devoted to extemporaneous speaking and parliamentary practice. After listening to the Critic's report and programme for next C. R. H. meeting, the Society adjourned.

March 11th. The Alpha Beta Society was called to order by President Sc-

gie Stewart. Elva Palmer led in devotion, after which A. E Ridenour delivered a declamation. The subject for discussion, "Resolved, that it will not be for the best interests of the Prohibition party to fuse with the Labor party in the coming campaign,' was argued on the affirmative by Ivy F. Harner and Guy Hulett, and on the negative by Grace Clark and C. M. Morgan. The affirmative argued that by the action of the convention at St. Louis it was evident that the Labor party was not in favor of prohibition, and that should the Prohibition party fuse with them it must give up the very principle for which it was created, and by this means national prohibition would be lost sight of. Other measures proposed by the Labor party were not in harmony with those of the Prohibition party, and among these are three very important issues—the Sub-treasury System, Government Ownership of Railroads, and the Free and Unlimited Coinage of Silver-which are all strongly supported by the Labor party. The negative claimed that there would or could be no fusion unless a prohibition plank was inserted in the platform of the Labor party. As the Prohibitionists are practically at a stand still, any move which they make, even though they may be required to make some sacrifice, will prove beneficial to them. Each party has for its object the protection of the home, but from different evils, and each recognizes the necessity for the other. By a union of the two by some kind of compromise, some effect would result, even if it be not so great as if both were brought out separately. As it is at present, there is but little hope of the Prohibition party making any headway. The Judges, W. O. Lyon, J. E. Thackrey, and Laura Mc-Keen, decided two to one in favor of the negative. The Glean. er, edited by Hugo Halstead, was well read by Kate Oldham. Recess. Music, solo, by Kate Oldham. Newsman's report and general business. I. F. H.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Atchison has a public library of 4,139 volumes.

The College Oracle is the name of a new quarterly student paper of Lane University, at Lecompton. The subscription price is twenty cents a year.

The last number of the Ottawa Campus is full of good thoughts, well expressed; it is newsy, well printed and pure in sentiment. The Campus is improving.

Prof. A. N. Porter, of Sterling, formerly teacher of mathematics at Cooper Memorial College, has received and accepted a call to a pulpit in Elliston, Illinois.

Chancellor James H. Canfield of the Nebraska State University lectured this week at the Jewish Temple at Kansas City on "The Rise and Growth of Individualism."

The primary and intermediate grades of the Randolph schools gave an entertainment on the evening of the 4th, which brought in \$22.75, to buy books for the school library.

The running expenses to the State for February of the penal and charitable schools have been as follows: Reform School for Boys \$1,915.89, Industrial School for Girls, \$949.49, Deaf and Dumb School \$3.759.38, School for the Blind \$1,334.81.

Delphos has a school population of 263, and its enrollment has reached 290 at the last account. If there is any other school district in the State that can show an actual enrollment of 110 per cent of its school population, we will gladly record the fact.—Ye Pedagog.

The programme of the Speer-Winans assocition to be held at Manhattan, April 1st and 2nd, as been published. It is rich and interesting. Chancellor Snow of the State University will deliver a lecture Friday evening in the College chapel, and State Supt. Winans will deliver an address at 1:30 P. M. Saturday. Supt. Winans will speak on "The Schools of Kansas at the World's Fair.

It is surprising that so few of the 12,000 teachers in Kansas try to secure a State certificate. The rules now in force, allowing canidates three years to complete the examination, are certainly reasonable. At the examination next August there should be several hundreds, instead of a few dozen candidates. Now is the time to begin preparation for the work.—Western School Fournal.

The Committee who have in charge the State Educational Exhibit have issued a neat little pamphlet of sixteen pages and colored cover containing a sample programme of exercises for Columbia Day in the schools of Kansas. The time proposed for the day is March 25th and April 22nd. The teachers are expected to invite the public to these exercises and charge such a fee for admission as in their judgment may seem practicable. But it is certain that a Columbia Day properly managed in every school in the State will produce ample funds to make our Educational Exhibition a great success.

ROAD NOTES.

It is not so much a question as who should build the roads or who should pay for them as it is to the getting of them and presenting them to the public to be utilized for the denesit of all concerned. In discussing the matter of good roads, we are discussing the welfare of the State and of every industry in it; not the benefit of this individual or that or this town or that. We must consider the question as a whole and as a State determine it. Let farmers come together at their county seats and talk the road question over; let them form county road associations and take care of their own inetrests. They only want a good law, and the State Board of Agriculture ought to be able to formulate it and do it well.

The pushing and aggressive men of every village, town, and city in America owe it to themselves, their business, and their families, and as well to those of the surrounding country on which the town depends for business, to see to it that measures are adopted to promote the construction of good roads for easy, speedy, and agreeable intercourse between the town and the country. Given a town good roads, nicely shaded, and, our word for it, there will be an abundance of vehicles called for; nice stylish buggies, barouches, and pony carriages; and as well for fresh, quick-stepping horses and ponies, by means of which the men, women, and children will be able to utilize their earnings now and enjoy them too. The health and happiness, the social intercourse and pleasure, derivable from this source is appreciated only by those who are able to enjoy it. But open up a public highway for twenty miles, and then see how soon the imprisoned denizens of our country homes will disport themselvs in their best clothing, and newest buggy; and with finer horses set the veins again and rejuvenate the whole animal economy, and, as well, the surrounding country.-Colman's Rural World.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principal ly a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the abitity to use his chances well.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a facture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alpha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

Once in each term the College Hall is opened for a social gather mg of Faculty and students, in which music, literary exercises, and friendly greeting find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free. According to the recently furnished statistics of the Kansas State Board of Agriculture, the farmers of this State have to their credit, after deducting the amount needed for groceries, clothing, and other necessaries, about \$103,529,572.20, the products of the crop of 1891—a magnificent showing for the Sunflower State.

Dr. Galen Wilson, of New York, speaks of a man who was so neat and precise about his farm and person that people said he was too nice to be wise. He raised a family of six childen, all who imbibed his strong trait of his character. He died worth \$20,000—all made by this kind of farming. Our Grange Homes.

MANHATTAN ADVERTISEMENTS.

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SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

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ANNUAL CHEAP COUNTER.-We give no chromos, punch no Atcikets, but sell shoes from 25 cents to 50 cents a pair cheaper than those who do, thereby saving you that much clean cash. Look at the Cheap Counter; everything \$ 1.00 a pair. REHFELD'S SHOE STORE.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5 00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II, SMITH.

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PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

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Loans upon school-district bonds are to be obtained from the Loan

Commissoner.

Bills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

ments of study of work, may be addressed to the several reference and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early n the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

COST OF WHEAT IN SOUTHERN KANSAS.

BY SECY I. D. GRAHAM.

IN "Farmers' Institute Notes," published in our Lissue of March 19th, it was stated, as the experience of a farmer in Cowley county, that the average yield of wheat for that locality for the past fifteen years had been fifteen bushels per acre, and that this wheat had been raised at a cost of nine dollars per acre, or sixty cents per bushel.

Mr. James Glover, of Bluff City, an enthusiastic and most careful farmer, sends a report of his experience in wheat raising in Harper County which is of value upon this point on account of the reliability of the figures given and because of the results obtained. His figures are as follows:-

Cost of raising one acre of wheat, yield of twenty bushels . land worth \$20. All the work hired:

ty bushels; land worth \$20. All the work inter	
Plowing	\$1.25
Harrowing	20
Drilling	
1 Bushel seed	75
Cutting	85
1½ lbs. Twine	
Shocking	15
Threshing in shock, 10 cents per bu	2.00
Hauling to granery, ½ cent per bu	.10
Interest on \$20 at 8 per cent	
Tax	-
Total per acre	
Cost per bushel	
Sold at 70 cents	. 14,00
	1 .

Average yield for four years in this township has been 221/2 bushsls; average price same time has been 771/2 cents. If sold at average price and yield, would be per acre \$17.44.

He further writes that "it has been the belief among farmers that wheat could not be grown here at a less cost than sixty cents per bushel, but they have grown it and sold it at from fifty-five cents to eighty-five cents per bushel and are getting rich. At the margin they figure on these visible results could not have been produced." While farming can never become a purely intellectual business, a few facts like these go a long way towards proving that now-a-days farming with brains is a success.

MEAL TIME.

BY MRS. N. S. KEDZIE.

THERE is no other one thing in which American women take so much comfort as in a well-kept table. The house may be small, the furniture simple, and the food plain; but if in the pride that a girl always carries into a home of her own the table be well kept, the food be well cooked and daintily served, she will feel sure she has helped to make a real home for some one.

And why not? Food must build up brain, as well as body; souls cannot inhabit shells. The "fit dwelling place" for the souls about us must be such bodies as will help the growth of soul and of brain. The people who feel that humanity is grovelling beneath its sphere when ministering to human needs, and who went only soul and brain to be cared tor, forget that there can be no brain without body, and that both grow upon the food given them during the years of active life.

It has been said of German women that "they sit enthroned upon a pedestal of home-baked virtues," because of their devotion to household duties. American women will never be too much absorbed in their kitchens, for many of them undertake more outside work than they are really able to carry on successfully. Still, the table three times a day does take much of the thought a woman can put into her work, or some festive occurrence demands a little extra thought, or when company comes to the average home the table is a "joy forever."

Snowy, well-ironed table linen, clean dishes tastefully arranged, well-cooked food put upon the table with thought as to how it looks and

thought as to convenience in serving it, a proper planning of the meals in accordance with the amount of work to be done and the conditions under which that work must be performed,-all go to make up the American table of which American women are justly proud.

It is a great help in many ways to have some one serve the meal if there are many at the table. If no one is employed for that purpose, it is good training for the young people of the household. It is a good thing for boys and girls to take turns at serving the meals which are set for company, or for family meals where so many sit down as to make waiting on the family a burden to father or mother. The deftness of hand, the quick perception of what is needed, the covering of an occasional mistake that will occur in the best-planned meal, even the slipping in of something to take the place of the dish that gave out before it went around,-all give training to young people that will be a help in many places all their lives.

Table marners are not forgotten by the thrifty American housewife. The children are early taught the use of napkin, knife, fork, and spoon; the kindly thought for table neighbors is insisted upon; and, best teaching of all, each child is allowed some share in the table talk that becomes the best visit the family has together. We are such a busy people that we don't spare much time for real visits, even with our home folks; but at the table we do visit more or less, and we find that as the years go by we look back with pleasure to cheery little visits that came because some woman took pride in her table.

American women are progressive, are bright, active workers in charitable enterprises,-in churches, in clubs, and even in politics, -but they will never give up the old-fashioned hospitality which they delight in dispensing from a bountiful table; and in holding on to their pride in this they can never stray far from the plane of real womanliness.

THE WEATHER FOR MARCH.

BY PROF. E. R. NICHOLS.

ARCH, 1892, was unusually wet, windy, IVI and cloudy. The cold period was confined to the second decade. The mean temperature for the first decade was 39.13°; for the second, 29.68°; and for the third, 46°.

Temperature.—The mean temperature for the month was 39.16°, which is 1.13° below normal. There have been sixteen colder and seventeen warmer Marches; the extremes being 24.58° in 1867, and 50.89° in 1860. The highest temperature for the month was 77°, on the 12th and 31st; the coldest, 10°, on the 18th—a monthly range of 67°. The warmest day was the 31st, the mean being 67.25°; the coldest was the 17th, the mean being 19.25°. The greatest range for one day was 45°, on the 11th; the least, 1°, on the 6th. The mean of the observations at 7 A. M. was 30.58°; at 2 P. M., 46.90°; at 9 P. M., 38.29°. The mean of the maximum was 48.94°; of the minimum, 28.71°; the mean of these being 38.83°.

Barometer. The mean barometer for the month 28.89 inches, which is .15 inch above normal. The highest was 29.338 inches at 7 A. M. on the 17th; the lowest, 28.142 inches at 9 P.M. on the 31st, a monthly range of 1.196 inches.

Rain-fall.—The total rain-fall for the month, including 4.7 inches of snow, was 4.603 inches, which is 3.28 inches above normal. This is the greatest rain-fall for March on the College records. This does not include the rain beginning on the evening of the 31st. Rain or snow fell in measurable quantities on the 3rd, 5-6th, 14th, 20-21st. 25th, 25-26th, and 29th.

Cloudiness.—There were eight days entirely cloudy, seven clear days, three more than two-thirds cloudy, five more than one-third cloudy, and eight less than one-third cloudy. The per cent of cloudiness for the month was forty-eight.

Wind.—The wind was from the northeast twenty-seven times; from the northwest, seventeen times; south, eleven times; southeast, nine times; southwest, eight times; northeast, and west, five times each; and a calm six times. The total run of the wind for the month was 11,135 miles, giving a mean daily velocity of 359.19 miles, and a mean hourly velocity of 14.97 miles. The highest daily velocity was 690 miles, on the 9th; and the highest hourly velocity, 44 miles, between eight and nine P M. on the 31st.

Casual Phenomena.—There were cold waves at two A. M. on the 9th and nine P. M. on the 12th. Thunder and lightning on the evenings of the 25th and 31st. There was a beautiful halo around the sun at noon on the 19th, accompanied by a parhelic circle, with the sun in its southern circumference.

Below will be found a comparison with the preceding Marches:—

February.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	5	2.02		47.12	82	10			
859	6	2.88	sw	45.95	74	29			
1860	0	0.00	8W	50.89	81	24			
861	0	0.00	SW	41.20	79	20			
000	0	0.00	NW	37.27 45.77	85	8			
	0	0.00	N	45 77	86	20			
1863		0.00	NW	38.21	68	19			
864	5	2.12 2.27			74	- 8			
865	6	2.27	NW	38.21	1.7	- 0			
1866	4			04 70	52	- 9			
1867	4	.63	N	24.58	9%				
1868	5	.93	NW	47.88	87	19	00 00	00.00	00 0-
1869	4	1.06	NE	35.24	72	- 2 0	28.80	29 30	28.30
1870	5	1.45	NW	34.82	68	0	28 69	9 29.15	28.20
871	4	1.02	NW	46.92	83	22			
1872	5	.92	NE	37.34	73	18			
873	4	.71	sw	42 02	74	3			
874	1	.30	NE	37.99	68	18	28.6	5 29.14	28.20
	0	4 01	SW	36.86	- 80	5	28.6	5 29.06	$28.20 \\ 28.18$
1875	2 6	3.96 2.70 1.77	NW.	32.65	66	5	28.7		28 24
1876	0	9.90			76	3	28.7	6 29.18	28.23 28.15
1877	3	2.70	sw	38.87		17	28.6		99 15
1878	5	1.77	NW	49.53	81		90.0	7 29.14	90.10
1879	0	.00	NW	46.63		10	28.6	20.14	28.22
1880	2	UG.	NW	41.24	80	- 2	28.5	7 28.99	27.97
1881	1	.75	NW	36.20	72	13	28.5	4 28.91	27.80
1882	2 3 5	.80	SW	46.73	78	12	28.6		28.04
883	3	1.05	NE	39.19	73	13	28.7		28.10
1884	5	2.36	NE	40.25	75	8	28.6	0 29.00	27.72
1885	0	.00	sw	40.34	73	15			
1886	6	1.55	NE	38.72	82	9	28.8	7 29.39	28.37
T.C.C.C.	3	.42	SW	42.85		23	28.9		28.61
1887	5	2.48	S	35.77	83	6	29.0		28.47
1888		1.00	9	43.01		15	29.0		28.48
1889	4	1.99	*********	37.18	77	9	28.4		27.93
1890	5	2.24	E	00.10	60	2 - 4	28.8		28.40
1891	6	2.24	N	33 43		- 4			
1892	7	4 60	NE	39.16	77	. 10	28.8	9 29.34	28.14
Means	3.5	1.32	NW	40.29	76	10	28.7	4 29.22	28.1
			WIND	RECOR	ED.				
			1.		Maximum Daily	Minimum Daily		Mean Hourly	Maximum H
		Total Miles	mean Duty	5	2.	111		n	2
		ta		200	111	7.77	14 7 1 3	_	m
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February.		M	6	2	72	**		211	THE
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								12.00	-
1889		6871	221	.64	537		55	9.24	37
		CALC. S. W.	Lete W	10.000	000		CR 40		70.00

THE SCIENTIFIC CLUB

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Means

March 25th, 1892.

12.08

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The Scientific Club was called to order by President Mason. The minutes of the previous meeting were read and adopted.

The programme of the evening was devoted entirely to birds. Prof. Graham presented a very interesting paper on "The Game Birds of the West." He had previously prepared an extensive chart which showed in outline all the different genera and species. On the table were placed many game birds and others from the museum which served as illustrations of the paper, which in substance is as follows:—

"In discussing the topic assigned to me this evening, the first consideration must be an answer to the question, what is a game bird? What gunner will admit that hisfavorite bird is not game, although tabooed by his neighbor? Men shoot meadow larks

and bobolinks, and would scorn the imputation that these are not game birds, or that they are not sportsmen. Again, men of better and broader views reject all such, and confine their attention to those which are recognized by everybody as game birds, and to these only.

"A quoted definition of what constitutes a game bird reads as follows: 'A game bird is one which is suitable for human food, and which is habitually pursued by man for sport, and whose capture demands both skill and dexterity.' I shall take it for granted that every sportsman is a gentleman who would not slaughter more game than he could find immediate use for, and that he would not descend to the level of the pot-hunter who kills robins and other insectivorous birds simply because they are fit to eat. I also take it for granted that every sportsman is interested in fish and game protection, and will use his every effort to prevent 'pot hunting' and shooting out of season; also that he will use his influence to prevent the late burning of prairie grass which yearly causes the destruction of thousands of our most useful birds. I would especially urge upon the sportsmen and all others the necessity for killing all predaceous animals and birds which are known to destroy either game or insectivorous birds. A list of these would include the common house cat, the egg-eating dog, skunks, 'possums, hawks, crows, bluejays, and English sparrows.

"It is very plain to one who thinks of it that our game birds are rapidly decreasing, and that practical extermination awaits the most of them unless some attention be paid to the game laws as now in force, and the passing of better laws. To illustrate: All spring shooting at waterfowl should be prohibited by law. The birds are not especially good upon the table at this season, owing to their dry winter food and their long northward flight, and the killing of the birds upon their way to their nesting grounds prevents the year's crop of young birds. Again, all market hunting and dealing in game should be prohibited, as putting a premium upon the wasteful killing of game. Kansas has taken a step in this direction by prohibiting the trapping or dealing in quails and prairie chickens, though very little attention seems to be paid to this law by either market hunters or dealers. Already the grandest of all American game birds-the turkey-is practically exterminated in Kansas, and the prairie chicken and others are fast tollowing.

"Most men and boys, and many women and girls, love guns, and I hope to see their numbers increase. There is nothing in the whole range of sport with which I am familiar, that brings such large returns in pure enjoyment, health-giving invigoration and fatigue, as an outing with a gun. Meat, however, should not be the prime object of such an excursion. This is by far the most expensive way to buy meat. The butchers will supply it very much cheaper. But the butchers can never supply the relaxation from daily care, the exhilarating influence of out-of-door exercise, or the satisfaction that comes from the skillful handling of the gun. He can furnish only meat, So I always recommend that the butcher be depended upon for the daily meat, and the gun for the recreation it affords, and the variety from regular fare which its successful use will bring.

"The proper use of the gun is always beneficial and never harmful or degrading, and this is very much more than can be said of many sports.

"Upon the chart before you is shown a scientific classification of the game birds of Kansas, and upon the table are the mounted specimens. The list does not include all of Kansas game birds, and does include some that I do not rank as game.

"Beginning with the family Anseres, there are

listed two Mergansers, or fish ducks, eighteen ducks, of which five belong to the genus Anas, one to Spatula, one to Dafila, one to Aix, five to Aythya, one to Glancionetta, one to Charitonetta, and one to Errismatura; four geese of the genera Chen, Anser, and Branta. Two swans belonging to the genus Olor; two cranes, genus Grus; five rails, two in Raltus, and three in Porzana.

"The common names of the other birds mentioned are as follows: Florida gallinule, mud hen, Wilson's phalerope, avocet, woodcock, Wilson's snipe, yellow legs, Bartram's sandpiper, long-billed curlew, golden plover, bob white partridge (Bonasa umbellus), prairie hen, sharptailed grouse, wild turkey, wild pigeon, turtle dove, bob-o-link, meadow lark, and western meadow lark."

Secretary Graham was followed by Prof. Lantz, who talked for a short time about the habits of our birds. He gave additional notes about many of the game birds mentioned by Secy. Graham. The fact that many of our birds remain during the winter, if their food is plentiful, was pointed out. Among our winter residents under such circumstances are the blue bird, the robin, the meadow lark, and the mallard. All except the last have been observed in abundance during the most severe weather. The mallard stays only when there is open water upon our small streams. The nesting of several species of ducks in our neighborhood was noted. The distribution of ruffed grouse in our State was mentioned, with the record of the occurrence of a pair in Pottawatomie County a few years since. The taking of a nest of little black rails on the College grounds was observed. The nesting habits of our owls, with special emphasis upon the early season when their eggs are to be found, was also a subject of com-

This subject was also discussed, and a great many questions asked about the habits of our birds. Adjournment. LOTTIE SHORT, Secy.

SANDWICHES.

BY MINNIE REED, '86.

NE of the many practical things taught in the College Kitchen is how to make a nice sandwich. While this may seem a very small matter to learn, without studying Household Economy, it is true, nevertheless, that many do not learn the lesson.

Of course, a sandwich is only two slices of buttered bread, with something placed between. This filling is usually meat, but may be cheese or anything else good. The economical housekeeper can use up various bits, in meat-loaf, pressed meats, etc; all of which make nice sandwiches if properly prepared. That some sandwiches are not prepared properly, almost any student would testify from personal experience, especially if she has boarded for some time. She would say there are sandwiches; some good, some bad, and others indifferent.

Here is one kind: It is made of two thick uneven slices of bread with lumps of butter scattered promiscuously over the surface, and a ragged, thick piece of meat between. The unhappy owner of this monstrosity looks at it with a faint heart and a failing appetite. She then vainly endeavors to span its three inches, but finding this feat impossible, she divides it, taking a single slice. Of course any one, even a hungry tramp, would lose his appetite if challenged by a sandwich of such proportions; so the student eats his lunch with very slight relish.

Here is another lunch that a different housewife has prepared. The bread and meat in this sandwich are sliced thin and evenly with a sharp knife; and the bread is buttered smoothly. The edges are even and the sandwich not more than one-half

Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892.93.

Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

A daughter arrived Monday at the home of Dr. and Mrs. Mayo.

Mrs. Kedzie has sold two of her city lots lying near the College to Mrs. Smith.

The first class, naturally a small one in the spring term, is assigned to the Machine Shop.

Mrs. J. W. Naylor, of Alta Vista, brought her daughter to College this week, and spent two days here.

The Engineering class-room is in readiness for illustrations by the magic lantern, the slides for which Prof. Hood makes.

Chancellor Snow of the University, who lectured last evening before the Speer-Winans Association, was the guest of President Fairchild.

The Speer-Winans Teachers' Association was in session at the College this morning. Many students availed themselves of the oppurtunity to be present.

A paragraph in a recent number of the INDUS-TRIALIST, concerning "The Farmer of the Future," should have been credited to the Junction City Union instead of the Tribune.

Mr. S. McCullough, of Delavan, saw two of his daughters comfortably settled in their College home this week. Mr. McCullough has given six of his children the benefits of the institution.

The Chemical Department has this week sent out to farmers of the State a large number of trial packages of choice sorghum seed. Requests accompanied by a two-cent stamp will still be honored.

Dr. Sep Sisson, who has been demonstrator of anatomy in the Ontario Veterinary College during the year just closed, is in the city for a short visit prior to resuming the practice of his profession at Fort Scott.—Nationalist.

The concert at the opera house last evening by the University Glee and Banjo Clubs was liberally patronized by College people. For a strictly amateur entertainment, the concert was a good one, and the boys received a hearty welcome.

Mr. M. V. Blood, of Glenwood Springs, Col., a former resident of Manhattan, visited the College yesterday, and was quite naturally surprised at the extent of the improvements since his last visit, several years ago.

Assistant Entomologist Marlatt is indebted to an unknown friend for a newspaper clipping mailed at Vicksburg in a sealed envelope, describing the attack of a swarm of "twin-screw, double-ender mosquitos" upon a party of men. It is needless to add that the story is laid in New Jersey.

Nearly or quite all of the members of the University Glee and Banjo Clubs visited the College this morning and found something to admire in the institution, even if it has no yell. The "Crimson-Rock Chalk-Jay Hawk-K. S. U." crowd are a pleasant lot of boys, and are welcome at any time.

"That tired feeling" prevails to considerable extent these bright, warm days. Don't rush off and buy a bottle of Mr. Har's Soodaparilla under the impression that this is a patent medicine advertisement, but instead try the efficacy of a few hours' lively exercise in your garden; or if you haven't a garden, borrow your neighbor's.

The high wind of Thursday night and Friday, resulting in disastrous gales elsewhere, did no damage at the College beyond tipping over Prof. Georgeson's barn, breaking about forty panes of glass in the greenhouse, and blowing the top off the chimney of the President's house. The anemometer, after holding out bravely all night, succumbed at half-past five yesterday morning to a gale blowing forty-nine miles an hour.

GRADUATES AND STUDENTS.

E. M. Hutto, a student in the early '80's, has moved to Chicago.

Grace Wells, student last year, has gone to Salina to attend the Normal.

John Davis, '90, will finish the English course at the State Normal School in June.

Maude Parker, Second-year in 1889-90, has music classes in Wabaunsee and St. George.

G. L. Clothier, Fourth-year, presented a paper before the Speer-Winans Association yesterday.

H. S. Willard, '90, called on College friends several times this week. He leaves soon for Texas in search of a location for a doctor shop.

A. A. Gist ['90] came in from Topeka, Monday evening, for a few days visit with his parents. He went to his work in Belleville, Wednesday .-Nationalist.

J. E Payne, '87, writes from West Point, Miss., of planting corn the last week in Februrary. He thinks the climate of Mississippi as pleasant as that of California.

H. B. Gilstrap and G. V. Johnson, both of the class of '91, partners in the printing business at Chandler, Oklahoma, send the Printing Department a tasty sample of their work.

O. G. Palmer, '87, writes from Washington, D. C., that he received the degrees of LL. B. and LL. M. at the Columbian University with the class of '91, and that L. W. Call, '83, holds certificates of like degrees from the same institu-

J. E. D. Williamson, a student at the College in 1874-5, has recently removed from Melvern, Osage county, to Milford, Geary county, where he is engaged in a general mercantile business. He has been farming for several years past. —Republic.

From Naples, Italy, comes word, through a private letter, that Mrs. Belle Selby Curtiss, '82, is enjoying her wedding tour among the sights of the Old World. Having spent a considerable portion of the winter in Paris, in pursuit of her art studies, she now with Mr. Curtiss visits Italy and Greece and then returns to Paris for some months further study.

SANDWICHES.

Continued from page 122.

inch thick. It is dainty and appetizing, and fully appreciated by the hungry student who brings her

In the Kitchen Laboratory the Second year girls are taught the fundamental principles of good cooking. In preparing the Friday lunches, all learn how to make dainty sandwiches with various fillings. They not only get the directions, but the actual practice, in making some two hundred or more.

Every girl should know how to prepare a nice lunch before she finishes Domestic Science; and as the sandwich is the principal part, let her learn how to make it neat and palatable.

There is no doubt that the good health, and hence the best work, of students depends largely upon their food. Doing without food from breakfast until tea is not conducive to good health, and no student need be compelled to do it because of a poor lunch, when nice sandwiches are so easily made.

In his welcoming address to the delegates of the agricultural convention held in Columbus, last month, Governor McKinley said: "What I have on my mind most at this time in connection with the interest of agriculture is good roads throughout Ohio."

The average agricultural mind is slow to apply the circumstances of environment. It takes a good deal of plowing, and sub-soiling, and harrowing, and warming by the sunlight of progressive thought and ideas before it comprehends that the procession is moving forward.—T. F. Abbott.

COURSE OF STUDY.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside.

Each student is expected to take three studies besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two, but fuller explanations are found under the Outline of Instruction.

FIRST YEAR.

Algebra. English Analysis. Geometrical Drawing. Industrial. FALL TERM:

WINTER TERM: Algebra. English Composition.

Book-keeping. Free-hand Drawing three times a week. Industrial. SPRING TERM: Algebra. English Structure.

Botany.
Industrial (Carpentry or Sewing.)

SECOND YEAR.

Geometry. Elementary Chemistry. Horticulture. Industrial. FALL TERM:

WINTER TERM: Geometry completed, Projection Drawing.
Agriculture or Hous, hold Economy.
Organic Chemistry and Mineralogy.
Twelve Lectures in Military Science.
Industrial (Cooking.)

Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial (Farm and Garden or Dairy.) SPRING TERM:

THIRD YEAR.

Trigonometry and Surveying. Agricultural Chemistry. General History. Industrial (Farm and Garden.) FALL TERM:

WINTER TERM: Mechanics.
Constitutional History and Civil Govern-

ment. Rhetoric. Industrial.

Civil Engineering or Hygiene. SPRING TERM:

Physics.
English Literature.
Perspective Drawing two hours a week;
Drafting two hours.
Industrial.

FOURTH YEAR. FALL TERM: Agriculture or Literature. Physics and Meteorology. Psychology. Industrial.

WINTER TERM: Logic, Deductive and Inductive. Structural Botany. Veterinary Science or Floriculture. Industrial.

SPRING TERM: Geology.
Political Economy.
An elective in Agriculture, Horticulture Mechanics, or related scien Industrial.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor dur ing the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are re quired to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed-outside of required hours of labor-upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the abinty to use his chances well.

The farmers who are successful are those who never lose sight of the fact that the farm is a home; that everything done toward beautifying and improving the place is enhancing its value. - Our Grange Homes.

KANSAS EDUCATIONAL NOTES.

PROF. J. D. WALTERS.

Supt. Olson, of Riley, informs us that the Riley teachers' meeting, which was to be held March 29th, has been postponed to April 9th on account of bad weather.

Alice Grandsen, of Greenleaf, went before the State Board of Pharmacy at Concordia last week and passed an examination as assistant pharmacist. Miss Grandsen will establish a drug store, but there will be no "annex" connected with it.—

Kansas City Star.

The literary societies of McPherson College had a joint debate over the theory of sound waves as advanced by Prof. Tyndall and generally accepted by the learned scientists, and the theory of sound-substance as propounded by Wilford Hall, the meosophist of the *Microscosmos*.

Reports from all parts of the State tell that the entertainments given by the schools for the benefit of the Columbian educational exhibition were very successful. The schools of Manhattan sold \$126 worth of tickets, netting about \$90, and the entertainment is very highly spoken of. Another entertainment has been arranged for the date appointed by the State Committee.

Mrs. Foye, the noted spiritualistic medium, was at Lawrence, last week, and a party of students from the State University disguised themselves and attended her seance. They communicated with all sorts of mythical, mystical uncles, aunts, cousins, fathers, and mothers they never had, and got the pull on information about a valuable package of paper burnt in a house and a box of money hid away in the earth, all of which things never existed, so they say.

The largest educational meeting ever held in Western Kansas was in session here last Saturday. The Ellis and Russell County Teachers' Associations assembled at Eastman's hall promptly at 10 o'clock, where an excellent program was carried out with a vim and enthusiasm never before shown by teachers in this section. Every paper showed careful study and thought. while the discussions were both intertaining and instructive. With such leaders as Superintendents Grass and Bickerdyke, teaching is becoming a pleasure. The visiting teachers were intelligent looking and refined, and are ever welcomed to our city. In the evening the Hays teachers gave an entertainment at the hall, while visiting teachers were waiting for the trains. -Hays City Republican.

With regard to the long-advertised resurrection of Garfield University, the Wichita Eagle says: "This week has been a busy one at the Garfield University. Fires are kept up to insure the thorough drying of the walls, the buildings are undergoing genneral repairs and renovation, and all will be found in perfectly comfortable and sanitary condition ready for the opening of the spring term next Monday, the 28th. While it is proposed to open only the preparatory and normal departments for this term, it should be borne in mind that the work will be in charge of some of the most able and popular teachers of the former faculty, and that it will be of the same grade and thoroughness, supplemented by the same facilities for personal work in library, laboratories, etc., and in every respect be characterized by the same care as in the full regular session of the University. Professor Griffin is now in the city, and may be found every afternoon this week at 351 S. Market, where he will be glad to meet friends and former students."

Superintendent Greenwood, of Kansas City, concerning corporal punishment, says in his report: "Corporal punishment and suspension are both resorted to with less frequency each year. In a few of the schools Solomon's injunction is still heeded with considerable zeal. Sixteen schools reported sixty-five cases of corporal punishment, and nineteen schools no cases. Eighteen suspended forty-five disobedient pupils, and seventeen did not suspend any. There does not appear to be any close connection between the number of pupils whipped and suspended in any school, or between the number of suspensions and the whippings. There are so few cases of either kind that a special record of each case should be kept, and the effect of punishment noted as to whether it improved the conduct of the individual or made him more intractable. It would be far better to establish a special school under the management of a

wise and judicious teacher, rather than to turn the boys into the street when they have shown themselves to be unworthy to associate with children of habits. When a pupil attending this school gave substantial evidence that he could be trusted in a regular school among orderly and obedient pupils, he then would enter upon a probationary period, dependent entirely on his own good behavior. Such a school would do great good in the community.

KINDRED INSTITUTIONS.

Howe's Potato Manual for 1892, North Hadley, Mass., is at hand.

The Fourth Annual Report of the Arkansas Station, Fayetteville, is at hand.

The Fourth Annual Report of the Texas Station, at College Station P. O., is received.

"Cooperative Soil-test Experiments for 1891," is the title of Bulletin No. 34 of the Alabama Station at Auburn.

Bulletin No. 16 of the Oregon Station reports upon varieties and yield of wheat, and in Bulletin No. 17 upon the sugar beet.

"The Sugar Beet in South Dakota" is the title of Bulletin No. 27 of the South Dakota Station at Brookings. This bulletin is issued by Chemical Department.

The Annual Report of the Connecticut Station, New Haven, for 1891, contains reports of experiments for the year in addition to the financial and other reports.

The Annual Bulletin of Colorado College and Cutler Academy, Colorado Springs, gives full information regarding that institution. Prof. Wm. F. Slocum is President.

The December (1891) number of the Agricultural Gazette of New South Wales contains papers on the grasses of New South Wales, budding, Notes on Weeds, Rust in Wheat, Feeding, Butter and Cheese Making, Ensilage and Entomological Notes.

The Massachusetts Horticultural Society, at its meeting on March 12, passed resolutions favoring the publishing, by the Board of Education, of a suitable programme of exercises for the schools of the State for the proper observance of Arbor Day; Also favoring the more extensive study of natural history, including botany, horticulture, forestry, and entomology, in the common schools of the State

Bulletin No. 19 of the Illinois Station, Champaign, reports upon experiments with oats in 1891 and the chinch bug in Illinois during 1891-92. In regard to the latter Prof. Forbes says: "The subject of the use of contagious insect diseases is still in the experimental, the relations of this method to various weather conditions being as yet particularly doubtful. Its promise is such, however, as to make it worth while for any one inferested to try the experiment thoroughly and cheerfully."

The December (1891) Bulletin of the American Museum of Natural History, Central Park, New York, is a bulky pamphlet of more than 450 pages with papers on a new bat, Maximillian types of South American birds, Mammals from Costa Rica, and Southern Texas and Northern Mexico, a new sub-species of the eastern chipmunk, a new weasel and a badger, notes on the otter, the skunk, and little known mammals lately added to the collection of the Society. Several papers of value on birds and one on cretaceous fossils complete the list.

THANKS TO THE RAILWAYS!

The science of transportation is going to be the special contribution of the American people to political economy. It is the most interesting feature in their economic system, and the achievements which they have accomplished through it will in future ages read almost like fables. It has been a magician's wand, calling towns into existence on the desolate praire, raising towns into cities and cities into world-famous hives of wealth and industry. It has conjured up fortunes out of nothing and multiplied values ten, twenty, aye, often a hundred-fold. Millions of well-paid, well-fed laborers enjoy its blessings without ever thinking to what they owe them. For every capitalist, every large manufacturer, every prosperous

merchant there could have been without it, there are now thousands. The teeming factories of New England and the mammoth warehouses of Chicago have sprung from it as directly as the silver mines of Colorado or Nevada. The wealth-creating power of North America is to a very large extent the product of its wealth distributing facilities. But for the capacity of the railways to carry wheat from the Missouri River to the Atlantic coast for a few cents per bushel there would have been no wheat farms west of Chicago, and many of the richest agricultural States in the Union might still have been in possession of the buiffalo and the red Indian.—The Financial Times (London).

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

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FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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REBATE TICKETS given on all cash sales. For tickets amounting to \$5 00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

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and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early n the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

EDUCATION FOR THE INDUSTRIES

BY PROF. J. D. WALTERS.

THE conditions of life surrounding the Amer-I ican laborer have, within a generation or two, undergone a radical change. Thirty or forty years ago, if a mechanic did his work as well as those who sat with him on the same jury, or in the same church, there was for him no further concern. He and his neighbors fixed the price of their primitive products, since they sold in a purely local market. But electricity, steam, and the daily paper have since then made one neighborhood of the whole United States, or, in fact, of the world. The competition now comes from the ends of the earth, and the prices are settled by the skill, knowledge, ingenuity, and capital of the whole human race.

More than this, the demands upon the artisan have increased greatly during this period. A generation ago it was a very limited variety of products required at his hands. Buildings, engineering structures, furniture, dresses, machinery, and utensils were generally simple and plain. Today, however, the variety is almost infinite, and raw material, bone, and muscle constitute a much smaller part of their value, while skill, taste, and science count for vastly more. The house, and the furniture put into it, must have more of elegance, style, and comfort. The fabrics of the loom must be more beautiful in design and finer in finish. More graceful forms must issue from the foundries, glassworks, potteries, and quarries. The carriage and the railroad car must have a better model, and the workmanship must be finer in every part. As a nation, we possess the wealth to satisfy our taste, and what our own laborers are unable to furnish is brought from Europe, China, or Japan. Tariff laws cannot prevent this.

Similar statements could be made with regard to the farmer. When the land was virgin soil from the Susquehanna to the Sacramento, bone and muscle vigorously applied were sufficient to insure a crop. "We tickled the ground with the hee, and it laughed with a bountiful harvest." Nor were there billions of 'hoppers, bugs, and flies, or annual scourges of rots and blights. There was a time-honored way of working the farm, and no need existed for entomology, chemistry, and engineering. Today, however, impoverished fields and insect pests abound in all parts of the country, and they have evidently come to stay.

Such being the conditions of American labor, what can we do to meet them? Are we conceiving the needs of the time? These questions cannot be answered in the affirmative. Young America flocks to the large cities, but not to do mechanical work, unless forced to take it up by uncontrollable circumstances. The ideal life of the products of our school and home training is one of physical ease. As a consequence, our factories and shops are largely manned and managed by foreigners, and the imports are growing in spite of increased tariff rates. In 1887, the New York Board of Public Works reported that of the twenty-one millions of dollars expended in the city for building operations, fully eighteen millions went to mechanics of foreign extraction. If it is desirable to free the country from this dependence, there must be a change of methods in our school system. It is high time to modify the public schools so as, by direct intention, to educate the pupils more for skilled laborers-farmers, artisans, merchants, manufacturers, who form over seventy-five per cent of the population-than for literary and professional occupations, which claim

less than seven per cent. It could be done without lowering the literary standing. The world progresses, and where there is a will there is a way.

HOW TO MAINTAIN THE FERTILITY OF THE FARM.

BY PROF. C. C. GEORGESON.

ANY farmers on our Kansas prairies still Valcling fondly to the delusion that the fertility of their farms will never give out. Emphatic assertions to the effect that manure is a positive injury, or that the land will remain just as fertile as it is till it is worn ten feet deep, are not infrequent. And I regret to say that they sometimes come from those who, by reason of education and opportunities for observation, ought to know better. It is useless to argue with such people. Nothing but experience can convince them. To them the evidence of statistics and the experience of others count for nothing. Nor are these lines directed to them. There is another large class of intelligent farmers who admit the possibility of soil exhaustion, but who nevertheless fail to take measures to prevent it. They are not convinced that immediate measures are needed. They have become wedded to the pioneer practice of limiting farming to sowing and reaping, and to doing this with the least possible expenditure of labor. They can therefore never find time to haul the manure from the feed lot, or to bother with clover and tame grasses; and as for rotation, that they admit is doubtless a good practice, but there is no chance for it, since they grow but wheat and corn, and the corn is always surest on the low-lying portions of the farm, whereas the wheat does fairly well on the higher land. This class, though open to conviction, require positive proof of the need of a change before they consent to alter their system. There is still a third and large class of excellent, wide-awake farmers who keep abreast of the times, whose farms are growing richer as the years pass; these need no advice on the subject.

If you would be convinced that our prairie soil and even our rich bottom lands can suffer loss of fertility, compare, whenever opportunity offers, the crops in average years on new land after it has been under the plow a couple of years with crops on adjoining fields which have been cultivated for years. If the eye fails to detect a difference, let the bushel measure decide the case. Should this fail to prove it to your satisfaction, study the practice of farming communities in the older settled portions of the Mississippi Valley, and note the history of that practice. The farmers who to-day are prosperous and successful in Illinois, Indiana, Iowa, and Missouri do not rely on the unaided native fertility of the soil for the growth of their crops; they have laid aside the pioneer system and adopted the reciprocity plan in dealing with their soil, by which they give as well as take, and they find the more they give it the more they can take. That soil was once as fertile and as "inexhaustible" as our best Kansas soil now is. If a change has been found necessary there, will it not be needed hear? Finally, apply the test of common sense to the problem. It is evident that it must take a large amount of material to grow a field of corn, or wheat, or anything else. Where does it come from? Though water and air furnish much, our field crops are not air plants; the essential portion must come from the soil. Now, roots cannot bite off and swallow particles of soil as was once believed; they can feed only by absorbing water and with it the nourishment that it may have dissolved in the soil. But soil does not dissolve like sugar or salt. Only a very small percent of its weight can thus be dissolved in water, and it is

this small amount which constitutes its fertility: when that is used up its capacity to produce crops is gone. Any one can see that with continuous heavy cropping the stock of fertility must in time be reduced, and if nothing is done to maintain it, finally give out; and then we have an abandoned farm. That is what has happened to thousands of farms in this country, and that is what must happen in Kansas if nothing is done to prevent it.

How to maintain the fertility of our farms is a problem that ere long will force itself on our attention. It is the wisest course to solve it before it becomes pressing, for the old adage that "an ounce of prevention is worth a pound of cure" had never a more apt application than here. What to do to maintain the fertility can in a general way be formulated in a few brief rules:

- duced in the stable or in the feed-lot. The era when it could be most profitably disposed of by dumping it in the river is gone never to return. One cannot fully appreciate the value of this precious material until he has seen the farmers of Japan or China go along the public road and carefully collect the occasional droppings from passing horses.
- 2. See that the best portion of the manure is not wasted by leaching. Allow no coffee-colored stream to meander leisurely from the manure pile to the creek; for it contains bushels of corn in the undeveloped state.
- 3. Save the straw and use for bedding for the stock what is not used for feeding. It will make the cattle more comfortable, and serve as an absorbent of the liquid manure, besides furnishing much that is of value itself.
- 4. Haul the manure on to the corn land during winter or early spring, and plow it under as soon as possible. Never manure directly for wheat and oats unless the land is very poor. It is those who do so who conclude that "manure is injurious to this soil." In a wet season it may cause the straw to grow so heavy that it lodges, and in a dry season it may make the soil too porous to retain the necessary moisture; but none of these objections apply to corn.
- 5. Adopt some system of rotation so the same crop shall not occur two years, or, at least not more than two years in succession in any given field.
- 6. Let red clover and tame grasses, especially the clover, be a prominent part of this rotation. Seed it early in the spring, either by itself or with some mixture of grass seed, but not with any grain crop. Use it for meadow the first year, for meadow or pasture the second, and the third plow under a good growth of young clover for the corn as late in the spring as practicable to prepare for planting; or pasture it till midsummer and then break it up early and thoroughly for wheat. If done before harvest it is better than later.
- 7. If for any reason such a rotation is impracticable, green manure fields in turn for the corn each year, for which, use some legumnious plant if possible. The southern cow pea is the very best plant for this purpose. Let it follow wheat, and plow the land and sow the cow peas broadcast, two bushels per acre, early in July immediately after wheat harvest. By the middle of September there will be a heavy growth which should be turned under before frost.

Other means for keeping up the fertility will suggest themselves to the practical farmer; but if these points are adhered to his land will never fail him, nor will he need to patronize the artificial fertilizer manufacturer who in the East profits by the thoughtlessness of a former generation of farmers in letting the land run down. Kansas soil is at present productive; if it were not it would be worthless. It will be worthless if it is not kept productive.

SOCIAL TRAINING.

BY JENNIE C. TUNNELL, '90:

SELF-CONSCIOUSNESS is the bane of not only the average student, but often of the man or woman who has been out from the college halls for several years.

We are wont to excuse the college-bred man who betrays an uncouthness of manner by saying, "He is just out of college, you know; when one is studying he has no time to think of other things. The rough edges will be rubbed off after a while, when he goes out a little more into society."

The college-bred woman suffers more if she lacks social training, for if she has half the uncouthness of manner that our college-bred man has, hands are held up in hely horror. "So shocking, so strong-minded, so abnormal!"

The time is past when the woman who can draw a map from notes, work a mechanic's problem, or write a chapel oration all equally well is looked upon as a phenomenon; but the time has also past when the educated woman without social training can hold an equal place in society with the woman whose mind has less mathematics and English, but more freedom from self-consciousness and more graceful dignity.

"Manners," says Emerson,—and no one can say it with more grace,—"may be superficial, but so are the dewdrops which give such a grace to the morning meadows." So a dignified, reposeful bearing and the power of adaptation to strangers and circumstances give depth and force to what you may know.

To put the matter on a higher plane, if the student's aim is to help others, as a teacher, or a lecturer, or a preacher, what will accomplish his end sooner and better than strength of bearing and dignified address?

THE WEATHER BUREAU.

In delivering an address before the Massachusetts State Horticultural Society, Mr. J. W. Smith made the following statements of general interest:—

"Some special lines of work to be developed are: Collecting accurate meteorological records for climatic investigation in relation to the growth of crops and to the health conditions; the collection of reliable crop information and data of the weather affecting crops, and the issue of weekly crop bulletins during the summer season; more special and specific weather forecasts by the local officials, and a wider dissemination of these forecasts in the agricultural districts; also the extension of frostwarning systems throughout the fruit, tobacco, and cranberry sections.

"We often speak of the climate of the state, or of the country; it is found that not only does the climate of countries and states differ, but that each town, and each man's farm, has a climate peculiar to itself; also that the study of the climate of the farm, and its influence on the growing crops, will not apply to an adjoining farm. Therefore, while we cannot hope to establish a station for studying the climate, on each man's farm, there is no question but that each farmer would be greatly benefited if he should pay more attention to the study of the climate and its relation to his several crops.

"During the growing season a large number of correspondents are enlisted all over the country to gather and transmit reliable information on the progress of the crops, and effects of the weather upon them. This information condensed is issued in weekly bulletins, and by following these bulletins, one can make a correct estimate on the conditions of any crop in the whole country, or in any state or country. This is one of the most practical féatures of the Weather Bureau work, and we are now enlisting the voluntary services of persons all over New England for the coming summer season, that this department of our work may be done more effectively because more locally applicable.

Weather Bureau is of most interest and value to the industries of the country, and the commerce—which largely grows out of those industries. Agriculture is the chief industry, therefore the Weather Bureau was, on July 1st, 1891, transferred from the War Department, to become a division of the Homes.

United States Department of Agriculture. This change places the affairs in the efficient hands of General Rusk, Secretary of Agriculture, and Professor M. W. Harrington, our new chief.

"Upon the completion of this transfer, twenty local forecast officials were appointed, and such improvements in the work secured that, beginning Jan. 1st, 1892, the forecasts that are received in the early morning cover the probable weather until midnight, and those received about noon indicate the weather until 8 P. M. of the following day. This increased advance must prove of great value to all agricultural and horticultural interests, both in the growing of crops and trade in the products."

The lecturer gave some account of the three classes of cold waves, their origin, causes, attending circumstances, and effects. He gave illustrations of the advantage of the frost warnings issued by the bureau; described the importance of a knowledge of the dew-point, and its connection with agricultural operations; the use of the hygrometer, and its value to the farm; methods of protecting crops from frost, when the frost warning had been received. He alluded to thunder-storms, hail-storms, tornadoes, and also mentioned the subject of electroculture—stimulating plant-life by electricity.

KANSAS THRIFT.

Hutchinson is probably the only city in Kansas where street crossings are made of salt, making a walk unexcelled for durability and cleanliness.

Forty-one per cent of last year's Kansas corn crop is still in the granaries. This is another indication that Kansas farmers are not as hard up as calamity orators want to have the world believe. Low prices have not been the cause of this; the price of corn ranged from 26 to 40 cents in Kansas this winter.— Junction City Union.

W. H. Hollinger of east Dickinson has completed a \$5,000 barn which is supplied with every convenience. Water is carried to each stall, and a roll of the latest pattern which grinds the feed is driven by a four-horse tread power. A portion of the barn is reserved for storing grain, being equipped with modern elevating machinery, and the barn throughout is one of the best in the county.— Abilene Reflector.

Kansas broom-corn has a great reputation in the markets. Its production is almost certain to grow in importance in the far western counties of the State, where the dry weather, during the season for harvesting, issues the very best quality of brush. Large acres of new sod are being broken this season in these western counties, and many of these will doubtless be planted in broom-corn.

—Kansas Farmer.

C. F. Stone, of Marion County, who makes a specialty of fine Holsteins and Merino sheep, has already entered three of the finest cows in the United States for the butter contest at the World's Fair. The cows are: Mary Overton, record 34 pounds and 8 ounces of butter in seven days; Gerben, record 32 pounds; Empress Josephine 3d, record 31 pounds, 12 ounces—the last, four years old.

Possibly the oldest apple orchard in this country is on the Van Meter farm, and was put out by Peter Welch in 1862. These trees were then four years old. Many of the largest ones girt six feet, and the largest one is six feet three inches in circumference 18 inches from the ground, and is 34 feet high. The majority of these trees are healthy and full of vigor, and give every indication of living and bearing fruit for the next thirty-four years to come.—Fredonia Citizen.

In the zinc district of southeastern Kansas there are nine zinc smelting plants, operating fifty-eight furnaces, which have a daily capacity for handling and reducing 400,000 pounds of ore, yielding a product of 135,000 pounds of spelter. Of these smelters, six are in Pittsburg and one each in Weir City, Scammonville, and Girard, the latter two with capacities of six and two furnaces respectively, while the Weir City plant is the largest zinc smelter in the United States, operating as it does six blocks, or twelve furnaces, and turning out 50,000 pounds of zinc spelter. — Wichita Eagle.

In France the road system (the most perfect system in the world) has been of greater value as a means of raising the value of land than have the railroads. In France every market cart, with its broad tire, is a road-maker. — Our Grange Homes.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 93.

Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Prof. White conducts the general history exercise at the meeting of county teachers at Riley today.

Prof. Rain lectures this evening at the postponed meeting of the Riley County Teachers' Association at Riley.

Mr. H. C. Leonard, representing the Kansas Newspaper Union, visited the College this morning for the first time.

The Rege: ts meet on Tuesday next at three o'clock P. M. for the annual election of officers and other important business.

Out of respect for the memory of their fellow member, Fred S. Little, the Webster Society will hold no session this evening.

Messrs. Rudolph Niehenke and John Ladwig, farmers of the famed Fancy Creek region, spent several hours at the College yesterday.

A party of gentlemen from Beattie, Marshall county, consisting of Messrs. M. Hawk, Barney Cassidy, R. S. Pauley, and A. S. Cooper, visited the College Wednesday.

President Fairchild spent a few hours in Kansas City Monday morning, where he purchased the 2,200 panes of glass needed to repair the damages from Sunday's hail-storm.

The Veterinary Department has some mallein, a chemical product of the glanders bacillus, for use in diagnosing obscure cases of glanders, or farcy. Dr. Mayo is looking for a case upon which he may try it.

Speakers for Commencement Day have been chosen. The lot falls on the following members of the class: Effie Gilstrap, C. P. Hartley, R. A. McIlvaine, D. H. Otis, I. B. Parker, H. Darnell, L. C. Criner, R. S. Reed.

Over 2,200 panes of glass were broken in buildings and greenhouses by the hail storm of Sunday. The glaziers have been busy all the week in repairing damages, and several days will yet be required to finish the work.

Ex-Regent Caraway is, it is said, a candidate The Industrialist for Secretary of State. doesn't dabble in politics, but would record Mr. Caraway's election with all the pleasure it gives a non-partisan to see a worthy person in a place of public trust.

The chapel lecture yesterday afternoon by Professor Lantz was an interesting paper on matters astronomical, illustrated by numerous lantern pictures of the sun and its attendant planets, with their satellites, the moon, and the earth from a photograph of Vesuvius. The failure of the light near the conclusion of the lecture left many of the more interesting views unshown.

GRADUATES AND STUDENTS.

W. T. Hanlon, First-year, is called home by the sickness of his uncle.

A. K. Barnes, Second-year, has dropped out of College on account of sickness.

Marie Hanline, in Second-year classes, leaves College on account of ill health.

G. E. Hopper, '84, is putting in a system of wells for the Blue Rapids water works.

G. L. Christenson, Third year in 1890-91, is in classes again this term for the first time this year.

D. W. Working, '88, has been promoted from Lecturer to Master of the Colorado State Grange.

Papers by graduates of this College are read today at the meeting of Riley county teachers as follows: "Incentives to Study and Good Conduct," J. W. Bayles, '89; "A Teacher's Requisites for Good Government," S. C. Harner,

'90; "Life and Work of Froebel," Delpha Hoop, '91; "The Bright and the Dull Pupil," Lillian St. John, '91. The names of Bertha Kimball, '90, Ada Rice, Anna Reece, Mima Carey, and Wm. McIlvain, former students, are on the programme for discussions.

G. K. Thompson, Third-year, visited his home in Irving last week, and was detained there two days by sickness.

Marie B. Senn, '90, has entered upon special study at this college after completing a successful term of teaching in Dickinson County.

W. W. Hutto, '91, and E. M. Hutto, student in 1883-4, have been prospecting in Oklahoma recently. They report F. A. Hutto, '85, to be succeeding as a lawyer at Stillwater.

DEATH OF FRED S. LITTLE.

For the first time in several years the College is called to mourn the death of a student in the last year of his course here. Fred Swift Little, son of Dr. C. F. Little, of Manhattan, has been connected with the College since September, 1888, and until taken with pleurisy four weeks ago has been constant in attendance with his class. Though not yet nineteen years of age, his earnest character and clear thinking had made him a favorite in classroom and society, while his kindly interest in others made him many intimate friends. All will miss his cheering ways, and cannot cease to regret that the promise of such a life must remain unfulfilled. The funeral will be attended by his classmates and multitude of College friends.

Funeral services will be held at the family residence, tomorrow afternoon at three o'clock. Pallbearers will be chosen from the Senior class.

The Fourth-year Class met yesterday afternoon, and paid tribute to the memory of their classmate

in the following words:

Since it has pleased God to call from us our classmate and friend, Fred S. Little, we take this manner of showing our respect to the memory of one who has been with us during all our College days, and who has been regarded by all as a superior student, a trustworthy friend, and a kind, cheerful companion. We also express our heartfelt sorrow for his loss, and our earnest sympathy for his parents and friends in their affliction.

H. A. DARNELL, ALICE VAIL, MAY SECREST,

Committee. The Webster Society met in special session Friday afternoon and passed the following reso-

lutions of respect:-

WHEREAS, death has called from among us our esteemed member and fellow student, Fred S. Little, one worthy of the respect of all, and who has endeared himself to us by his generous conduct, upright life, and ennobling example; and

WHEREAS, in his last moments his thoughts were for the welfare of the Society and its mem-

bers; therefore, be it

Resolved, That we, the members of the Webster Literary Society, extend our heartfelt sympathy to the bereaved family, and shall always cherish in our hearts a kind and tender remembrance for our schoolmate and brother Webster.

E. W. REED, G. K. THOMPSON, M. F. HULETT, Committee.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced. Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical ex ercises of the third- and fourth-year classes. Once a week all the classes meet, in their class rooms, for exercise in elocution and cor-

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use The Alpha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

COURSE OF STUDY.

The necessity for so adjusting various branches of a course of study that there shall be as little waste as possible in acquiring both information and discipline, is felt by every teacher. Such a course is not designed to be absolutely inflexible, but to guide the judgment into some definite line of progress from which no mere whim shall turn a student aside.

Each student is expected to take three studies besides one hour's daily practice in an industrial art; and variations from this rule can be made only with the consent of the Faculty.

Parallel courses are offered to both sexes, with such differences as their necessities seem to call for. The following gives the general scope of the two, but fuller explanations are found under the Outline of Instruction.

FIRST YEAR.

Algebra. English Analysis. Geometrical Drawing. FALL TERM:

WINTER TERM: Algebra.
English Composition.
Book-keeping.
Free-hand Drawing three times a week.
Industrial.

Algebra. English Structure.

Botany. Industrial (Carpentry or Sewing.) SECOND YEAR.

Geometry. Elementary Chemistry. FALL TERM: Horticulture. Industrial.

Winter Term: Geometry completed, Projection Drawing.
Agriculture or Household Economy.
Organic Chemistry and Mineralogy.
Twelve Lectures in Military-Science.
Industrial (Cooking.)

SPRING TERM: Anatomy and Physiology.
Entomology.
Analytical Chemistry.
Twenty Lectures in Military Science.
Industrial (Farm and Garden or Dairy.)

THIRD YEAR.

Trigonometry and Surveying. Agricultural Chemistry. FALL TERM: General History. Industrial (Farm and Garden.)

WINTER TERM: Mechanics.
Constitutional History and Civil Govern-

ment. Rhetoric. Industrial.

SPRING TERM: Civil Engineering or Hygiene. Physics. English Literature.

Perspective Drawing two hours a week;
Drafting two hours. Industrial.

FOURTH YEAR. Agriculture or Literature. Physics and Meteorology.

FALL TERM: Psychology Industrial.
WINTER TERM: Logic, Deductive and Inductive.

Zoology. Structural Botany. Veterinary Science or Floriculture Industrial.

SPRING TERM: Geology.
Political Economy. An elective in Agriculture, Horticulture

Mechanics, or related sciences.

COLLEGE ORGANIZATIONS

April 2nd, 1892.

President Wildin called the Hamiltons to order as usual. Roll-call. Mr. Hulse led in prayer. Reading and adoption of minutes. The society proceeded to elect officers for the Spring term, resulting as follows: F. R. Smith, President; J. U. Riddell, Vice-President; W. O. Staver, Recording Secretary; V. Emrick, Corresponding Secretary; C. C. Towner, Treasurer, G. W. Wildin, Critic; L. P. Holland, Marshal.

The program being taken up, a good declamation was given by Mr. Conrad. The balance of the program was dropped and the society busied itself with new business for the rest of the C. R. H.

April 1st.

In the absence of the President, Secretary Thompson called the Alpha Betas together. J. E. Thackrey was elected temporary chairman. The program opened with a vocal duet by Misses Luella and Maggie Stewart. Elva Palmer led in devotion. Declamation, Nora Fryhofer. The question, "Resolved, That the Columbian Exposition should be open on Sunday," was discussed affirmatively by G. W. Fryhofer and Mr. Keeler, and negatively by E. J. Abell and W C. Meade. The judges decided in favor of the negative. The Gleaner was edited and read by Jessie Stearns; motto, "There is room at the top." Recess. Music, vocal duet by Elva and Inez Palmer. It being election day, the remainder of the literary programme was passed, and the following corps of worthy members elected to guide the Alpha Beta Society through the coming term: President, G. L. Clothier; Vice President, Birdie Secrest; Recording Secretary, Jessie Stearns: Corresponding Secretary, Kate Oldham; Treasurer, G. W. Fryhofer; Critic, May Secrest; Marshal, Ellen Halstead. J. E. Thackrey was elected to fill a vacancy in the Board of Directors. The exercises were closed by congregational singing.

The leading object of every farmer should be to provide home supplies. I would have the farm produce so as to avoid every possible expenditure of money. What does it profit to make with one hand and spend with the other?-New York Tribune.

- ANSAS EDUCATIONAL NOTES.

PROW. J. D. WALTERS.

Twenty five of the one hundred County Superintendents of the State are women.

The Wichita schools were closed two days this week on account of the severe storm.

Larned has passed an ordinance prohibiting young people below the age of sixteen promenading the streets of the city after ten o'clock in summer and nine o'clock in winter.

Topeka saw fit to vote down a proposition to issue \$125,000 in bonds for a new high-school building. The building was needed, and—well, what's the matter with Topeka?

The National Convention of the Pi Beta Phi, a ladies' secret college order, held its annual session at the State University last week. A reception was given on Wednesday and a banquet on Thursday night.

At the Topeka high school contest Prof. Larimer gave notice that any one who blew a horn in the house would be summarily ejected. This example is worthy of imitation at the intercollegiate contest.

—Topeka Capital.

The Washburn College Concert Club, consisting of a pianist, a violinist, a vocalist, and a comedian, will give one of their entertainments at Campbell university April 18th, at which time Washburn's orator, J. L. Poston, will deliver his prize oration, "After the Shackles Have Been Removed."—Holton Informer.

The retiring editor of the Baker *Index* treats his readers with a six-column symposium—small type and no leads—of reminiscences and farewells, but forgot to sign his name. The article is very interesting and the name—Daniel Brummitt, once of the Agricultural College—might well have appeared at the head of it.

Pamphlets showing the proposed scope and arrangement of the Kansas Educational Exhibit at the World's Fair, and the rules governing the proportion of the school work for exhibit, have been mailed to every school and college in the State. Some 12,000 copies were distributed. Before printing them, the committee submitted the draft to Dr. Peabody, Chairman of the Educational Department of the World's Fair.

The Baker Beacon urges the students of Baker University to form political campaign clubs. We consider such clubs at educational institutions a great mistake and an inevitable source of much and varied evil. Not only are they liable to engender hard feelings among classmates, but they substitute noise, cheers, and hyperbole for thought and reason. Students, above all people, should not be partisans, but impartial investigators. In a college or university, political and social questions should be studied from a non-partisan standpoint; i. e., all sides should be investigated with equal care. No other standpoint is befitting a young disciple of a free and liberal institution of learning.

ORANGE JUDD NOT A PESSIMIST.

Says Colman's Rural World, in the issue of March 31st:—

"The following from that venerable agricultural editor and writer, Orange Judd, is full of food for thought. He does not believe the farmers of America are either fools, lunatics, or knaves, and does not insult their intelligence by treating them as such:—

"'The writer can hardly be thankful enough that he was not born a pessimist; that it is not constitutional with him to hunt for spots on the sun; that he is not constantly weighed down with the feeling that the things are going to the bad, both as respects his own affairs and the future, and as respects the country, the condition of the people, of the laws and their enforcement. When at past three score he saw not merely an ample provision for old age, but his last dollar swept away as if swallowed up by an earthquake, he is thankful that not for one hour, hardly a minute, did despair come in to discourage effort to repair the loss. He has a real pity for the dyspeptic, or the person so naturally constituted as to always look on the dark side. No cloud is ever so dense that there is not a silver lining if one will get where he can see the side towards the sun. He has a supreme contempt for that class of men-alas! too many of them in charge of rural journals-who trade on fostering a spirit of discontent, of depression over the wrong state of things. Some of these so act because they are dyspeptics; others do so that they may present themselves the trights of the reform, as the sole guardians of the rights of wronged humanity, and thus secure patronage and pelf. Give us the journalist and the politician who does not indulge in indigo eloquence, and in hysteric shrieks of calamity and despair."

GOOD ROADS.

Our new and bright exchange, Good Roads, says: "Shall it be national roads, state roads, or county roads? Every scheme for legislation has its sponsor and its followers, and it is not impossible to foresee that some controversy or dispute may arise by which the adherents of the one theory may condemn other propositions, under the belief that the encouragement of one scheme involves the decline of another. There should be no misunderstanding upon this point. A bill providing for state roads, to be constructed under direction of skilled men, need not conflict in any way with the provision of the law for improvement of roads by the local authorities in the several counties, nor need any proposed enactment by the national Congress conflict with either of these. Indeed it would seem to be advantageous that two of these systems—the state and the county systems-should pe planned and established for a harmonious working, which may be mutually beneficial. The state road law should provide for the improvement and maintenance of the main thoroughfares which connect important towns in separate counties, just as the admirable system maintained in France provides for national roads between the cities and towns located in different "departments." The maintenance of such a system by the state would involve a constant supervision of the best roads by skilled officials, and the neglect and decay of the well-built roads, which are likely to follow the changes of strictly local management (which is too often incompetent), would be avoided. The continued excellence of the state roads would thus be insured, and at all times they would serve as object lessons to the county and town officers, in the construction of less important ones. Under the county system, ample provision may be made for the construction and repair of roads running between important towns within the same county; and as the state roads are generally divided and subdivided into sections, which are placed in charge of inspectors, the skill and knowledge of these inspectors could well be enlisted, and cheaply, too, to aid in the care of the county roads. National highways, built and maintained under the patronage of the general government, and by the skill of government engineers, might well be constructed upon lines of travel which are most likley to be used in the emergency of war, and by the postal service and other branches of the civil service in times of peace. To simplify the whole statement, that system would seem to be the best which has a well defined and rigidly framed law of the general or state government, whereby long lines of important highways may be well made and permanently maintained in good condition, and which also includes local laws and local roads, having relation to the parent law and to the main highway as branches to a main trunk. Every law, therefore, which provides for the construction of good roads, unless it be so awkwardly drawn as to interfere with auxiliary legislation, should have the public aid and encouragement.

MISCHIEF BY MAIL.

Fraudulent advertisements in papers of a certain class have come to be a most demoralizing influence in rural communities. It is a source of much vigilance and worriment to conscientious parents how to restrain their children from "evil communications" that "corrupt good manners." strictest surveillance cannot always suffice. One of these vile sheets before me now contains 109 advertisements which show the earmarks of fraud or indecency. Farmer's children in particular are sought out by the schemers as easy victims. Their addresses are obtained by offering any one a "gold ring" (brass) who will send ten addresses. For ten cents another will send a paper a whole year and put one's name in his "agents' directory, which will go whirling all over the United States and bring bushels of mail."

The "bushels" come, but every bit of it is of a deceitful, fraudulent nature, promising "something for nothing." When children will not

purchase these papers for a trifle, the proprietors give them away; a package of twenty-five came to my post-office yesterday, and others come every day, to be passed out to anybody who will take them. As less than thirty families receive their mail here, enough comes to demoralize every child in the community. I presume it is as bad all through the States, and other States. With extreme vigilance one might possibly keep such papers out of his own house, but all persons are not judges of papers, and one's children would have opportunity to read them at the neighbor's. Such papers are violating the law against using the mails for indecent, immoral, or swindling purposes.—Galen Wilson, in New York Tribune.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second hand Text books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

R. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

.CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

GROCERIES.

R. HOPSON & CO., Dealers in Staple and Fancy Groceries, Country Produce, etc. Fruits in their season a specialty. 228

WATCHES, JEWELRY.

Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-ware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J.WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

ANNUAL CHEAP COUNTER.-We give no chromos, punch no tcikets, but sell shoes from 25 cents to 50 cents a pair cheaper than those who do, thereby saving you that much clean cash. Look at the Cheap Counter; everything \$1.00 a pair. REHFELD'S SHOE STORE.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5 00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS, offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

HUNTRESS, Dry Goods, Groceries, Queensware. Free delivery. Prices always as low as good business methods will warrant. The trade of Professors, Students, and all connected with the College especially solicited.

B. PURCELL, Corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students; consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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Loans upon school-district bonds are to be obtained from the Loan

Commissioner
Rills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.
All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.
The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies,

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers Institutes should be addressed, as early not be season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

SOIL ANALYSIS.

BY PROF. G. H. FAILYER. THERE is much misconception upon soils, I their composition and constitution, and on the relation of these characters to the fertility of soils. In no respect is this more obvious than in the one matter of soil analysis. It is quite natural to suppose that any undue importance that may be attached to information gained by the analysis of soils is to be credited to the zeal of chemists that leads them to magnify the importance of their work, and that this has extended to others. But such is not the case. Chemists, as a class, are very cautious in their estimates of the value of an analysis of a soil. And this caution arises from a knowledge of the limitations of such work. The more thoroughly one studies the subject of the production of crops, the more complex it becomes, and hence the more difficulty he experiences in judging the effect of one or a few condi-

tions. All soils are the result of decomposed rocks mixed with organic matter, principally decayed plants. The decomposed rock may remain in place upon the rocks from which it came, or it may be transported by water and winds. In sloping lands, the soil is always more or less disturbed by rain water. It is often profoundly disturbed, being carried into the rivulets, brooks, creeks, and rivers, even to the ocean. This is seen in the muddy water of every freshet. The accumulation on low lands of material washed from high ground makes the former more fertile than the latter. The rocks in disintegrating are subjected to two distinct changes, both proceeding together, and the material resulting from both being more or less intermingled in the final deposit as soil. One of these is mere pulverization. In all soils will be found, in dust form, particles of the same minerals that constituted the rocks from which the soil originated. At the same time a chemical change takes place in the soil. By this means, some parts of it change to compounds not originally in the rocks. By the last means, some of the elements that constituted plant food become assimilable to plants. So that in any soil one will always find some substances that are so soluble that they will be taken up by plants and assist in nourishing the plants; substances of the nature of inert rocks that cannot be used by plants; and often a portion intermediate between these, not in the condition of plant food, but changed from the stable and inactive rock dust it once was to a form especially liable to further decomposition. The rock dust, however stable it may be, is not abie to resist ultimately the gnawing teeth of the chemical agents, oxygen, carbon-dioxide, and water, to which it is subjected. It, too, gradually changes chemically. In this way are we to account for the fact that so-called worn out soils recover their fertility after lying idle for a period.

Roughly, then, the mineral constituents of soils may be placed under the three heads mentionedthat readily taken up by piants, that which is entirely beyond their reach, and that which is in a transition stage. The soil ingredients resulting from decaying plants may be placed in simiilar classes.

Although the analyst may readily determine the quantity of the several constituents of the ash of plants that occur in any particular soil, he is unable to determine to what extent they may form the one or the other of the above-mentioned classes in their relation to plants. He can tell a barren soil from a fertile one with unerring certainty, but to classify them relatively is beyond

his power. Experience has shown that soils in which the ash ingredients of plants exist in sufficient quantity, in such combinations as to be soluble in water, are fertile. But it would be unsafe to assume that this degree of solubility is an infallible guide.

The above will give a general idea of the difficulties from the chemical point of view alone. But this takes no account of the influence of the physical and mechanical characters of the soil. These have quite as important functions in plant growth as has plant food itself. There are certain characters due to the mechanical condition, that are always associated with fertile soil. The following enumeration will serve to show the nature of these: Permeability to water and air; relation to temperature, depending on structure and color; ease with which it may be penetrated by the roots of plants in their search for food; power to retain water and substances in solution; facility with which chemical decomposition takes place within

These mechanical characters are only indirectly connected with chemical composition. And chemical analysis gives little information upon these points. The fertility of the soil, as judged from the crops harvested, may change materially by adding some substance which changes the mechanical condition of the soil, but adds nothing of value as plant food. A mechanical analysis of soils of which we sometimes hear may give valuable information; but just what interpretation to put upon such results as are obtained by separating a soil into particles of certain relative size, is quite questionable. The effects upon plant growth will greatly depend on warmth and humidity of the climate.

Taking it altogether, a chemical analysis of soils gives information of value, but it must not be expected to answer too many questions. By understanding its powers and limitations, disappointments will be avoided.

THEORY AND PRACTICE.

BY IVY F. HARNER, '93.

HE time has come in many of our schools and I colleges when the right use of theories is being made. Our own College, especially, has set an example of the true combination of theory with practice. Our plan is much like that practiced in the days of Nicholas Nickleby: when we learn to do a thing we go and do it, thus depending upon our efforts coupled with the whys and wherefores which we have learned.

Our girls study household economy one hour, and the next may be seen robed in long-sleeved aprons, putting into practice what has been studied with a full understanding of why certain changes, either chemical or physical, take place, by the union of certain ingredients. Each tests the theories that have been advanced; and though she may not be able to prove the truth or falsity of each one, yet in a short time experience will establish

We study a substance in our chemistry one day, and the next are sent to investigate the truth of the statements for ourselves.

The student in entomology studies the habits of insects, their mode of living; then, armed with his cyanide bottle, and bug net in hand, explores the surrounding country to obtain specimens for his

So we might enumerate the many ways in which we are required to put our knowledge to test, thereby making onr work practical. We often hear the expression that to preach is easier than to practice; yet of what advantage is an education

of any kind, or can it be said to be complete, if it does not, besides strengthening the mind and brightening the intellect, prove a reservoir from which constant drains may be taken and each day leave it fuller and richer by experience than the last?

The world has but little use for the day-dreamer, who advances his theories of what may be done or might be done in a dreamy sort of way. The demand is for those who do and with their might, those who practice with a full understanding of what lies behind.

Much is said of the practical work which follows when one has earned his sheepskin; but look about you, examine our course of study, visit our work-shops, and you will find the real student practices as he goes, and he will find the world only a continuation of his work here.

MONEY FOR THE CHILDREN.

No child ever learns at once to use money. There is no lesson we can set for the young people which will give them immediate good judgment in this regard. No American has proper respect for himself unless he has money enough to buy his next meal, at least. The very bravest of us will find a feeling of slavish dependence creeping in where our last penny is going out. Is it not well, then, for Americans to think on this matter somewhat, and give the young people a chance to know by individual experience something of the value of money? It is not true that only those who earn money prize it—and many who earn it by the hardest kind of labor spend it recklessly.

The desire for the possession of articles which money will buy is the incentive to spend money; and if the desire to hold money is greater than to possess other articles, then the money is hoarded and a miserly spirit is encouraged.

Real wisdom in the use of money means to so use it as to get out of it the greatest possible amount of good. This may be in present possession or in future security against want. There is no better way to teach children to use money than by giving them an allowance as soon as they are old enough to be trusted with the spending of any money. A very small sum, a few pennies each week or each month, given with absolute regularity, for their very own, and an understanding that father is not to be asked for Sundayschool money, for money to attend the "show," or buy candy, or marbles, or doll ribbons, will beget care and forethought that will encourage the true use of money. One careless spending of money for sweeties, then having to go without some coveted luxury that might have been bought with the money, will teach the child a lesson that many a man, and woman, too, spends years in learning. It will save many a one in late life from buying before seeing whence the money is to come to meet the bills.

It is easy to give the children a chance to earn a little money. Not by the home people buying favors, for little people should never be paid for courtesy; but for real work they may sometimes have pay and ought to be allowed to use that money themselves. If they are encouraged to earn money for their own books or shoes, the books will receive better care, and the shoes will be kept out of some of the mud holes. However, they ought not be compelled to spend all their money upon necessities; but should be allowed to spend a little as they see fit or to save for some purpose of special interest. If a little account book is kept, a very useful habit will be formed, and methodical calculations will be encouraged.

If a child takes care of a calf, a pig, a chicken, or a colt, and calls it his until it is grown, the most cruel thing that can possibly be done is to sell that animal without the child's knowledge and pocket the money. "John's colt," that be-

came "father's horse," has been the source of more distrust in humanity than all the forgeries in the land. It is the meanest kind of stealing to take from one's own children that which has become theirs by common consent.

If money comes hard, and it doesn't seem best to spare even a little for the children, they can often earn some by raising some crop on a bit of ground that can be spared to them. Little farmers have often worked hard over a square rod of land, and have learned a real love for "mother earth" while working for the tiny crop, the memory of which has made them notable farmers in after years.

This talk of money for children means girls as well as boys. No woman likes to go to her husband for every penny, even though she knows it is as much hers as his, and one reason why so many men hold the purse strings and keep them drawn tight is that so few women know how to use money wisely.

When all our young people learn to make money give to them the greatest good possible, we shall hear less complaint of people who are extravagant or of those who are miserly. There may come a time when people who are "looking backward" will find this earth without money, and may feel that it is better so; but today we count money among our possessions, and it is for us to use it so as to make it give us all the comforts possible.

It was not money, but the love of money, that Paul said was the root of all evil.

No better practical course of lessons can be given young people than that which teaches a wise use of all the money that comes into their possession. — Mrs. N. S. Kedzie, in Kansas Farmer.

INSECT PESTS IN 1892

The Topeka Capital of April 14th publishes the following letter from Warren Knaus, '82:—

"One of the reporters on the Capital got hold of some news last week in the shape of a report of damage promised to the wheat by insects in central and west-central Kansas. What the insect or insects were the reporter did not learn. No part of the report contained information definite enough for use, and we accordingly addressed friends of ours in the vicinity of the reported insects for the facts. We have the following letter from Mr. Warren Knaus, of McPherson, an expert entomologist. He may be taken as good authority:

"Your letter and clipping at hand this morn-The Hessian fly (Cecidomyia destructor) and the wheat-straw worm (Isosoma tritici) are undoubtedly all over central and western Kansas. The fly is more prevalent over the eastern, and the worm over the western central part. Of the damage in this county last year, ten per cent was from the fly and five per cent from the worm. This year in McPherson County I anticipate more damage from the fly. Probably ten per cent of the wheat crop was sown in September, and it is safe to say that almost all of this has fly. These are just ready to hatch from the pupal, or "flaxseed" state in which they passed the winter attached to the lower part of the stalk and blades of wheat, and as soon as hatched will begin depositing eggs on the young wheat. Some damage is sure to follow, but it should be no worse than last year, owing to such a large per cent of the wheat having been sown late. The wheat-straw worm is also ready to hatch, but I do not anticipate that they will do much damage here. Farther west and northwest I look for much more damage from this pest, as they were much more numerous last year in that part of the State. The worm can easily be guarded against, as the females are wingless, and have to crawl from their hatching place—the straw—to the growing wheat. If the

straw is burned, the worm is destroyed. I have specimens of the fly of the worm hatched this spring.' ".

GOOD ROADS A PUBLIC BLESSING.

Good roads are not only among the highest indices of civilization, but they are also the rarest of public blessings in this country, as all candid and observing tourists from abroad have noted. It is, therefore, a wholesome and a necessary work to which the legislature of Virginia is about to address itself in providing a system of good roads throughout that State, with ample provision also for their efficient maintenance. One of the schemes under consideration would involve an expenditure of \$1,098,869, which it is proposed to apportion in such a way that it would not be felt as a burden by the people. In reality, good roads, honestly constructed, are neither an extravagance nor a luxury; for the saving in wear and tear of vehicles and the increased traffic that such roads invite, more than balance their cost and make them really a profitable investment.

If all the states should enter upon a similar system of internal improvements, the gain in all material ways would be incalculable. Nor would that be the consideration of highest consequence. Good roads mean social intercourse and the spread of culture. Education, religion, every higher influence, is in a sense dependent upon proper highways, while their relation to the public health is too obvious to need more than mertion.

In still another sense the contemplated action of the Virginia legislature will be of a wholesome and reassuring quality. It speaks well for the thrift and probity of any people when their legislative body proposes to address itself to questions of the highest public concern, because it means the abandonment for a time, at least, of private, corporate, and partisan interests, which have too largely constituted the body of state legislation in this country. It might be too sanguine to view the proposed Virginia movement as the beginning of a new era in this line. Still, it will be an excellent example, and worthy of being commended to all her sister commonwealths.—Philadelphia Record.

WIDE WHEEL TIRES.

The great destroyers of the common earth roads are water and narrow wheel tires. If a deep side ditch could be maintained on each side of the ordinary dirt road and kept clean, so as to receive and carry off the running water, the quality of the road would be improved, in most cases, 100 per cent. This is a point which farmers seem to meagerly understand, or at all events, one which they rarely put to practical use. Water has no place in any road, good or bad. It is more hurtful than any other agent of destruction. It should be carried off and out of every road as soon as it falls, if possible

Now as to the wheel tires. Every road becomes smooth by the application of a roller, and this smoothing process is hastened or retarded by the quality of the roller itself. If you have a wheel tire 11/2 inches wide, like those on your farm wagon, every time you go down the road with a ton of produce your wagon wheels sink into the soft mud, form ruts, and tend to keep the road in a rough condition. Your 1½-inch "roller" will not profitably exert its rolling qualities until the mud becomes nearly dry. A wider wheel tire would serve your purpose much better; and if the farmers of your country would use wheel tires three or four inches wide, as are used abroad, your dirt road would be rolled into passable condition in half the time that is now required to accomplish this result.

Next to water, nothing is so destructive of a good road surface as a heavy vehicle running on narrow wheels. It has been proved over and over again that wheels with $4\frac{1}{2}$ -inch tires cause only one-half the wear on the road that results from the use of wheels with $2\frac{1}{2}$ -inch tires.—Gospel of Good Roads.

In seasons when there are most obstacles to be overcome, the ordinary cultivator will succumb, making horticultural products scarce and high; the expert will overcome the obstacles and command high prices for his products.—Our Grange Homes.

The farmer should realize that farming has not yet reached perfection; that improvements are possible in a thousand things; and his constant study and careful obsevation should be to discover the better plan.—American Homestead.

Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 - 93. Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Mr. Griggs, of Topeka, visited the College vesterday atternoon.

A shawl has been found near the College, evidently dropped by some visitor.

The cost of repairing damages from the hailstorm of April 3d will fall little short of \$400.

Prof. Popenoe's new horse makes it necessary for his buggy to have a new spindle, boxing, and

The Ionians are waking the echoes with song, speech, and orchestra, preparatory to the exhibition next week.

State Fish Commissioner Mason, of Eureka, called at the College on Monday in company of Rev. Mr. Drake.

Mrs. Graham attends the State Convention of the Y. P. S. C. E. of the Christian Church at Junction City, this week.

The new Regents were well pleased with the condition of the College, expressing surprise at the growth already made.

The Western School Journal for April contains a biographical sketch of President Fairchild, illustrated by a large half-tone portrait.

Mr. Philip Kumle, of Sharps Creek, visited the college on Thursday. called here by the illness of his son, who has been confined to his room this week.

Not quite four hundred students report for daily duties this term, more than the usual number having been tempted into the farm work this spring.

Regent Kelley, of Eureka, addressed the students on Wednesday morning in a few well-chosen words upon means of growth in things of most practical importance in life.

Prof. Walters lectured Thursday evening before the Kansas Central Union Teachers' Association at Emporia on the subject "Manual Training at the Kansas State Agricultural College."

Prof. Hood's class in Engineering is getting the benefit of illustrations by the magic lantern. The slides are prepared by Mr. Ernest Hood, who is spending a few weeks with his brother.

Hon. Jno. A. Anderson, Ex-President of the College, will leave Cairo, Egypt, for home on April 17th. He has for several months been suffering in a hospital, unable to make the journey home.

Mr. Biddle, President of the State Farmer's Alliance, visited the College on Wednesday in the company of Rev. Mr. Norton of Manhattan, and spent a few hours in looking over the various departments.

The Horticultural Department has made the Beloit Reform School a gift of a hundred white ash trees, twenty-five Mariana plum trees, and from six to twenty-five plants of twenty-four varieties of ornamental shrubs and vines.

The Third-year Class met yesterday afternoon and organized for the campaign of '93 by electing the following officers: President, Mary Lyman; Vice-President, F. R. Smith; Secretary and Treasurer, Margaretha Horn; Marshal, M. W. McCrea.

A division of the Third-year Class occupied the Chapel rostrum vesterday afternoon, in orations, as follows: "The Tyranny of Public Opinion," T. E. Lyon; "Our Truest Friend," Maude E. Knickerbocker; "Our National Progress Due to Invention," W. O. Lyon; "Student Fun," Mary E. Lyman; "An Hour of Rest," M. W. McCrea.

Assistant Horticulturist Mason visited Montgomery county last week for a study of the forest

growth and the collection of specimens. He obtained a fine box of specimens, consisting of pecan, wild plum, wild locust, and several species of oak, and took from a patriarchal elm on Regent Forsyth's farm a bunch of mistletoe. Mr. Mason says the forests on the Verdigris and Elk rivers are the heaviest he has seen in Kansas.

Mr. McCreary, Janitor, while putting up the College flag in honor of the Board meeting Wednesday morning, was thrown by the sudden breaking of the flag rope, from the deck of the south wing, over the cresting and saved from a fall of three stories by the mere accident that his feet caught in the gutter at the eaves. The escape was a very narrow one. Those who saw him fall held their breath in suspense till he straightened up and walked in at the dormer window near by. All future possibility of such an accident will be prevented by rearrangment of the gearing.

BOARD MEETING.

All the Regents were present at the meeting this week, but Regent Finley was delayed a day on account of illness. The newly appointed Regents, F. M. Chaffee, of Wyckoff, Lyon County, and R. P. Kelley, of Eureka, Greenwood County, filed the oath of office, and the Board proceeded to the annual election of officers. The result was as follows:-

President, A. P. Forsyth; Vice-President, R. W. Finley; Treasurer, Joshua Wheeler; Secretary, Geo. T. Fairchild; Loan Commissioner, T. P. Moore.

The Standing Committees named by the President were:-

Finance-Regents Kelley, Finley, and Chaffee. Farm-Regents Wheeler, Chaffee, and Moore. Horticulture-Regents Chaffee, Kelley, and Forsyth.

Buildings and Grounds-Regents Finley, Fairchild, and Wheeler.

Employes-Regents Moore, Fairchild, and Forsyth.

Regents Moore and Fairchild were appointed a special committee to accept the bond of the Treasurer elect, and President Fairchild and Assistant Secretary Graham were authorized, in connection with the new Treasurer, to settle with the present Treasurer.

A plan for meeting the monthly pay-rolls presented by the special committee appointed to devise ways and means was, after careful consideration, unanimously approved, and the President and the Secretary, with the Loan Commissioner, were directed by resolution to carry out the plan.

During a recess from 6 to 7:30 P. M. of Tuesday, the members of the Board and the Faculty with their wives partook of a supper, prepared and served by the Cooking Classes, in the sewing room. Regents Forsyth, Kelley, and Chaffee responded to calls for impromptu remarks.

The joint meeting of Board and Faculty showed all present except Regent Finley. Full statements of the condition of the College in its several Departments were made by members of the Faculty, and estimates for needed expenditures were approved as follows:-

Carpet, matting, etc., \$100; case for rock specimens, \$75; apparatus for entomological display, \$45; lantern slides for engineering, \$25; piano tuning and repairs, \$20; repairs on barn floor, horse rake, and fence wire, \$110; re-arrangement of the Armory, \$20; water pump and tank, \$2.80; letter press and surgical instruments, \$16; botany cases and specimens, \$13; flag for pole, \$35: The estimates of the Station Council for current expenses of the quarter, amounting to \$1,100, were approved. The recommendation of the Faculty as to cuts of the Farm and Garden work for the Catalogue were adopted, and the President was authorized to secure an edition of 7,000 catalogues for 1891-2.

Upon recommendation of the Committee on employes, made under the direction of the Board at the last meeting, the Horticultural Department was enlarged by making Mr. S. C. Mason Assistant Professor of Horticulture after September first next, salary, \$1,400; and in view of increased labors already undertaken, his salary from April first to September first of this year was increased \$25 a month.

A letter from Mr. A. Denton, of Sterling, concerning application of the electric motor to farm-

ing, was read, and the Secretary was directed to offer such facilities for testing the devices as the College affords.

The action of the Faculty in regard to Farm and Garden industrials was approved.

The work of Geo. E. Hopper, contractor for sewer and water closets, having been accepted, obligation under his bond was by resolution released.

A committee of Regents Fairchild, Chaffee, and Wheeler was appointed to confer with the State Commissioner and with the Faculty as to the Columbian Exposition.

President Fairchild was directed to secure the address for Commencement week.

The Finance Committee reported upon the vouchers rendered for auditing, and upon investments for the quarter. A resolution making the Treasurer of the College Treasurer of the Station fund and authorizing him to receive and receipt for the same, was adopted in view of a change of treasurers.

The following resolutions, offered by Regent

Moore, were adopted:-

WHEREAS, the Hon. Ino. E. Hessin has been a faithful and efficient member of this Board for the six years last past, during which he has been an ardent worker for the best interests of this College, and a kind and trusted advisor of the Board, and

WHEREAS, his term of office as member of this

Board now expires; therefore, be it

Resolved, That we regret the change which deprives the College of the immediate services of so worthy and efficient a friend and supporter of its interests.

Resolved, That we express to Mr. Hessin the thanks of the Board for his kindness and faithful labors with us during the past six years.

The Board adjourned to meet on Tuesday, June 7th, at 9 o'clock A. M.

GRADUATES AND STUDENTS.

W. C. Butler, First-year, has had a visit from his mother this week.

Grant Dewey, '90, will spend the summer in a portable photograph gallery.

Jessie Whitney, Third-year, is kept from classes by an attack of scarlet fever.

J. B. Harman, Second-year in 1889-90, returns to classes after a year of teaching.

S. N. Chaffee, '91, was a visitor at the College on Thursday, having completed his winter's teach-

E. M. S. Curtis, Third-year, visits his home in Council Grove this week to attend the wedding of his sister.

Mary McCullough, of Delavan, student in 1886-7, visited her sisters in College several days this week.

Thursday at the marriage ceremony of his sister at Pomona. Mary Frazier, Second-year in 1890-91, is at

C. R. Hutchings, Third-year, was present on

the Cincinnati hospital in training for the duties of a nurse.

H. L. Pellet, Third-year, took charge of the Drawing Class in Prof. Walters' absence Thursday and Friday.

F. A. Waugh called at the College Wednesday. His services are sought in Montana, but we hope that he still loves Kansas best.

W. T. Allen, Second-year in 1890, having completed his term of teaching, goes to Kansas City to find employment for the summer.

Lillian St. John, '91, visited her College friends Thursday afternoon. She has finished successfully a seven months' school in the home district.

Cards are out announcing the approaching marriage of Annie McConnell, student in 1889-90, to Mr. Horsefield, at Kansas City, Kan., May, 18th.

A. K. Barnes, Second-year, who has been at home for the past three weeks, suffering from pneumonia, returned to College duties yesterday.

Mrs. Hecox, of Larned, called at the College on Thursday to see her son. She found him kept from classes by illness, though not confined to his

Stella Kimball has taken her sister's school to teach for the week past, while the latter was confined to the house by a slight attack of German measles.

W. C. Short, student in 1881-2, visited his sister, Lottie J. Short, '91, this week. Mr. Short is in charge of the refrigerating department of the Swift packing-house in Kansas City.

H. B. Gilstrap, '91, visited friends at the College several days this week on his way to Kansas City to purchase printing material. Mr. Gilstrap is associated with his classmate G. V. Johnson in the printing business at Chandler, Oklahoma, and he reports the firm as prospering.

Jacob Lund, '83, spent a few hours at the College on Monday, and met a warm greeting from many old friends. Mr. Lund hopes to find a home for himself and Mrs. Lund, whom he discovered nearly a year ago at Las Vegas, N. M., somewhere within the favored State of Kansas; for, having wandered all the way to the Pacific Coast, he finds no better place for a home than Kansas.

D. W. Working, '88, gives utterance to the following sentiment in the Denver Fancier and Farm Herald, under the department caption, "The Editor's Desk:" "An agricultural college is not to be used as a normal school or as a college of languages; it is to educate as broadly and as thoroughly as possible, but never to encroach on the field of the old-fashioned classical colleges. It has work of its own, and no traditional methods or notions of antique scholars should be allowed to make of it anything but an agricultural college."

COLLEGE ORGANIZATIONS.

STUDENT EDITORS.—Ora Wells, D. H. Otis, C. P. Hartley.

WEBSTER SOCIETY — President, D. H. Otis; Vice-President, W. H. Edelblute; Recording Secretary, S. I. Wilkin; Corresponding Secretary, M. O. Bacheller; Treasurer, G. W. Ginter; Critic, J. W. Hartley; Marshal, H. G. Pope. Meets Saturday evening, and admits gentlemen to membership only.

HAMILTON SOCIETY.—President, F. R. Smith; Vice-President, J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emrick; Treasurer, C. C. Towner; Critic, G. W. Wildin; Marshal, L. P. Holland. Meets Saturday evening. Admits gentlemen only to membership.

ALPHA BETA SOCIETY — President, G. L. Clothier; Vice-President, Birdie Secrest; Recording Secretary, Jessie Stearns; Corresponding Secretary, Kate Oldham; Treasurer, G. W. Fryhofer; Critic, May Secrest; Marshal, Ellen Halstead. Meets Friday afternoon. Admits ladies and gentlemen to membership.

IONIAN SOCIETY.—President, Ruth Stokes; Vice-President, Eusebia Mudge; Recording Secretary, Nora Newell; Corresponding Secretary, Hortensia Harman; Treasurer, Blanche Hayes; Marshal, Hannah Wetzig; Critic, Ora Wells. Meets Friday afternoon. Admits ladies only to membership.

April 8th.

The Alpha Beta Society was called to order by Secretary Thompson. J. N. Harner was appointed temporary chairman in the absence of Pres. Secrest. Prayer by Fred Hulse. The order of music was passed, and next was installment of officers for the term, and inaugural by Pres. Clothier. The program was opened by Mr. Thackrey with an oration, which showed careful thought and preparation. A select reading by Miss Lund on "The Bashful Man," a chapter especially devoted to his mischief at a French dinner. Next in order was the debate, on the subject, "Resolved, That inter-state collegiate oratorical contests should be abolished. speakers on the affirmative. were E. A. Gardiner and C. C. Smith; on the negative, G. L. Clothier and J. C. Christenson. The affirmative speakers gave as principal objections to contests that they consume too much time in preparation; that there is a tendency to unfairness in the originality of the written work; that it has a demoralizing effect upon the students. In defence of the subject the negative speakers showed how a resistance to this temptation to unfairness in work is a good training for one morally; also that contests act as a stimulant to help the student on to better work in oratory. The judges chosen were Elizabeth Edwards. Onie Hulett, and G. W. Fryhofer. The question was decided in favor of the affirmative. The Gleaner was next presented by F. H. Morgan; motto, "Six days shalt thou labor and on the seventh put in window glass." Recess. Instrumental music, Miss Lund. Newsman's report, Miss Inez Palmer. Informal speeches by Miss Edwards, on "Cooking as taught at the K. S. A. C," and Onie Hulett, on the subject "Monkeys." Report of retiring officers. Assignment to duty. Report of Critic. Reading of minutes. Music. Adjournment. K. O.

A goodly number of Ionians reported to roll-call after President Wells called the Society to order, and the usual opening exercises of music and devotion had been gone through with. Miss Hamill was elected a member of the Society, and was initiated. Miss Lyman was called to the chair while the officers for the ensuing term were installed. A call for the inaugural was responded to in a neat little speech delivered in Miss Stoke's easy, characteristic style. Miss Wells was called, for the valedictory, and made a few well chosen remarks. Both ladies were heartily applauded. The programme * was opened with music by a quartette, "The Husking of the Corn," which was highly appreciated by the audience. Miss Mudge followed with a reading very expressively rendered, "The Lightningrod Dispenser." A declamation, "The Vestry Meeting," by Miss Frisbie, was we'll delivered. Miss Haulenbeck presented the Oracle, which, as usual, was full of good things. "A Little Girl's Description of a Hail-storm" was unique and well put. "Country's Visit to the City," and "Thoughts on College Life and Influence" were articles reflecting credit on the writers. A discussion on calisthenic drill recently introduced in the College was opened by Miss Norton, who thought the idea an excellent one. A lively discussion ensued in which most of the members participated. The general sentiment was greatly in favor of calisthenics, though some thought the course al-

ready too much crowded to admit of any new feature. A b right news report, collected by Miss Moss, was read by Miss Lyman, in the absence of Miss Moss. The programme closed with an instrumental solo, well rendered by Miss Crump; and after the usual business proceedings the Society adjourned, feeling that this had been a bright and interesting session.

The Hamilton Society was called to order by President Wildin After roll-call the Society was led in prayer by H. B. Gilstrap. The minutes of previous meeting were read and adopted. Mr.B. M. Brown was elected marshal, L. P. Holland being ineligible. The following officers were inaugurated: President, F. R. Smith; Vice-President, J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emerick; Treasurer, C. C. Towner; Critic, G. W. Wildin.

Mr. Smith in his inaugural address thanked the Society for the honor they had bestowed upon him as President and asked the members to co-operate with him in making the Society the best in the College. Mr. Wildin in his valedictory remarks thanked the Society for the work done, and the respect shown him during his term as President. The programme of the evening was then taken up. Mr. Rich gave a declamation entitled "No half-way doing in this world or the next." A declamation by A. L. Frowe was well delivered. Debate, "Resolved, That all honorably discharged ex Union soldiers should receive a pension," was argued on the affirmative by W. O. Staver and Mr. Findley; on the negative by C. L. Gall and Mr. Hardy. The affirmative argued that the soldiers left their home to fight for their country when in need; that they risked their lives and spent two or three years of exposure and hardship, many being wounded or imprisoned; that they fought with but little pay, while if they had stayed at home they could have probably become rich; that these men were now old and broken down, and could not support themselves and families. The negative argued that it was their duty to fight for their country, and that they should not ask for a pension; that many that stayed at home suffered as much as those that were away in the army; that if these soldiers be pensioned that many would receive pensions that do not need them. Judges Gilstrap, Wright, and Smith decided two to one in favor of the affirmative. Reading by D. S. LaShelle was appreciated by all. The news of the weck was presented by Mr. Axtell. H. L. Pellet next presented the Recorder; motto, "Keep off the grass, for he that keepeth the walk and cutteth not across maketh no sheep paths." This was an excellent is ue of the Recorder, and Mr. Pellet is to be congratulated upon his success as an editor. Messrs. H. B. Gilstrap and A. O. Wright, former Hamiltons, each solve a few words, after which the Society additional conditions are successed by the society and the so iltons, each spoke a few words, after which the Society ad journed. V. E.

_ANSAS EDUCATIONAL NOTES.

PROM. J. D. WALTERS.

The graduating exercises of the ungraded schools of Riley County will be held at Randolph on May

Miss Hattie Horner, the weil-known Kansas poetess, is now one of the editorial staff of the Young Men's Era, published in Chicago.

Leavenworth was visited Friday of last week by the teachers of the Jefferson school, of Kansas City, The party arrived on the 9:05 Missouri Pacific train and were met at the depot by a number of teachers headed by Superintendent Klock and Prof. Barnes. The visitors were taken in carges to the Fort. After an inspection of the prison and the post, the party drove to the Penitentiary and Soldiers' Home.

The census of the school population makes a wonderful showing for Kansas. According to the figures of the federal census of 1890, this State leads the country in percentage of public school pupils. Some of the leading states are Iowa, 26 per cent; Nebraska, 22 per cent; Missouri, 24 per cent; Ohio, 22 per cent; Illinois, 20 per cent; South Dakota, 20 per cent. Kansas tops them all, her public school pupils being 28 per cent of the entire population.—Hartford News.

By an oversight the report of the Fourth Annual Meeting of the Speer-Winans Teachers' Assciation which was held at Manhattan Friday and Saturday of last week, was omitted. The meeting was not as well attended as it should have been, but much good work was done. There were about twenty members on the program, which, with a few exceptions, was carried out to the benefit of all present. All our neighboring cities were represented by inteligent instructors, who took an active part and particular pains to see that all vacancies in the program were properly filled. The visiting teachers, numbering nearly fifty, were provided with stopping places, and spoke many kind words in favor of Manhattan's hospitable people. The lecture by Chancellor Snow, at the Presbyterian church on Friday evening, brought out a crowd that filled the building to the outer doors. Mr. Snow is an interesting talker, especially when his subject is in his special line of scientific work. State Supt. Winans' address in regard to the display of Kansas schools at the Columbian Exposition was an entertaining description of what our State educational institutions could accomplish at the great fair. The election of officers occurred Saturday afternoon, and Prof. Geo. D. Knipe, of Manhattan, was made President of the Associa-

Secretary Mohler, of the State Board of Agriculture, addressed a circular to the farmers, urging them to set aside a piece of ground this year, prepare it carefully, fertilize it in the best possible manner, and raise some crop or crops upon it to be exhibited at the World's Fair. It is a very proper request, and, if this be done, it will do an immense amount of good. The smallest part of the good, perhaps, will be the advertisement of the State. The farmers, themselves, will learn what can be done with Kansas soil with proper cultivation, and many of them will perhaps do better work in the future. - The Washington Reg-

MANHATTAN ADVERTISEMENTS.

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ments of study or work, may be addressed and Superintendents.

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Applications for Farmers Institutes should be addressed, as early n the season as possible to the President.

The Experiment Station should be addressed through the Secretary.

PEAR BLIGHT AND SPRAYING.

BY PROF. E. A. POPENOE.

CORRESPONDENT asks for the meth-A od of spraying to prevent the "blight" in fruit trees, referring doubtless to the pear or apple blight, common recently in Kansas orchards. To this request it must be answered that the treatment of the true pear blight by spraying is not yet discovered, and from the nature of the disease it is likely to remain one of the unsolved problems for some time to come. The pear blight, in the first place, is not a fungous disease like those to which the spraying treatment has been found so applicable. It is, on the other hand, an internal disease of bacterial origin, and the direct manner of its entrance into the tissues is a matter of uncertainty. Once within the plant, no treatment can act as a cure. The disease must run its course, unless its progress is stopped by short pruning, or by the resistence of the tissues to its further spread. Any germicide, to reach the cause of the blight, must be introduced into the sap, and it will be seen at once that such treatment will be fatal to the tree as soon as to the germ within its tissues.

The rather inexact use of the term "blight" in horticultural literature is doubtless the cause of much of the confusion as to the treatment of the pear blight proper. Many observers give the name to any manifestation of disease or injury that results in a withering or blackening or curling of the leaf, or shriveling of the twig. There is no well-established authority for the restriction of the term to the disease resulting from the presence within the tissues of the germ named by Professor Burrill Micrococcus amylovorus, but it seems highly proper that this disease, in its several manifestations, should alone bear the name. Other so-called blights, resulting from the attacks of parasitic plants of a much higher order than the bacteria, give way readily to the treatment by spraying with the proper fungicide mixtures, because the manner of growth and fruiting of these parasites are such that the treatment may be made to reach the fungus without materially affecting the host-plant. But to avoid uncertainty in prescribing the treatment, it is necessary first to be certain of the character of the disease, as the diseases of the higher origin vary widely enough to demand considerable diversity in their treatment.

CORN CULTIVATION.

BY ASSISTANT C. M. BREESE.

ORN planting is now in progress in a large portion of our State, and the planter and lister will soon be succeeded by the cultivator. I am convinced, from observation, that many Kansas farmers are inclined to be careless in the attention given their cornfields, and it is a fault that should be remedied.

It was my fortune to personally observe, for a series of years, on neighboring farms, consisting of practically the same soil, two different methods of corn cultivation,-the one a half-way, the other thorough, cultivating. In the former, two times through before laying by was the rule. No particular attention was given to the condition of the ground. I have known the cultivator to be in full blast in that field when the ground was absolutely muddy; so wet that if the team were stopped a minute they would mire down to their knees in the worst places, and great slabs of mud which would scour off the plow, in a day or two of wind were nearly as hard and tough as rock.

The "two-times-one-are-two" plan seemed to be a particular stint, and when it was through with the chances were, no matter what the needs of the

crop, that field would see no more of cultivation during the season.

The art of weed-killing was not especially practiced; so long as the weeds did not seriously interfere with the harvesting of the crop, they were not especially obnoxious.

At the first excuse, the cornfield was forsaken to make ready for wheat harvest. It was believed that corn was a crop that didn't need much attention, but would care largely for itself. The consequences of such tillage need not be mentioned; the farmer himself noticed it, but professed to be unable to account for the limited yield he usually harvested.

In the case of thorough cultivation, the needs of the crop were studied. I have known the ground to be gone over four, five, and even six times; when the ground was wet no cultivator was allowed in the field, but it was a wet time indeed when the joys of weed-pulling could not be indulged in. It was a recognized principle that the necessary cultivation depended considerably upon the state of the soil previous to planting, and upon the season. The ground was never allowed to "bake" around the tender plants after a heavy rain.

As soon as the field was dried sufficiently, if there was a tendency toward baking, the cultivation began. Although often urged by the wheat harvest and other duties to desert the cornfield, if the conditions of the farm demanded attention, extra help was hired and neither crop slighted. As a result, the corn was always in a growing condition, showing a good deep color, and the field was as clean of weeds as a garden. The harvesting in such a field was a pleasure, and the additional soundness of the grain and increase of yield more than repaid the farmer for the extra labor expended, not taking into account the superior condition the ground was left in for the next year's crop.

EASTER ON THE FARM.

BY LOTTIE J. SHORT, '91.

EASTER DAY, of course, is just the same whether in the town or country; the sun shines just as brightly and the birds sing just as sweetly, but the difference lies in the surroundings. When on the farm, in spring there is a feeling of freedom and a spirit of new life attached to it which is irresistible to young or old. Before you are the fields of green grain, and stretching on in the distance to the edge of the creek, lies the pasture, which is just turning green, and dotted here and there with a few sheep and cattle. Along the creek in very secluded places are seen the first violets, while the leaves above, on the trees, are slowly unfolding from their winter's sleep. As you ramble along the creek and over the hills, you cannot help admitting the truth of the poet's words, "And thus our life, exempt from public haunt, finds tongues in trees, books in running brooks, sermons in stones, and good in everything."

The day before Easter the boys and girls take great delight in coloring the eggs which they have taken care to collect for this time, and when all are done and the eggs placed together, one is apt to remark that in one respect they resemble Jacob's coat-they are of many colors. Many quaint forms and pictures are also put upon them, which rather adds to their beauty and value. It being Easter, it is well to look for the origin of the use of eggs on this day. It is said that after , the 4th century the church prohibited the use of eggs, as well as other animal food, during Lent, but the hens were heretical enough to keep on laying, and the accumulated eggs were dyed for children at Easter. It is supposed that the custom of decorating eggs for Easter arose among Catholics, from joy at returning to their favorite food. It was once customary in Scotland to search for wild fowls' eggs on Easter morning for good luck. An old Saxon chronicle tells of an egg tournament. At suitable distances in a circle were placed twelve short poles, and on top of each one an egg. Around this, at full speed, ran the youths, armed with blunt lances. The one breaking the most eggs was declared victor.

Eggs are also of great food value, not only on Easter, but other days as well. We are told that eggs contain about twenty-six per cent of solid matter, fourteen of which is nitrogenous, and ten and one-half carbonaceous, or fatty. The yolk is the part which contains the fat, amounting to thirty-one per cent, while the white of the egg, which is entirely free from fat, is the richest in nitrogen, the albumen amounting to twentytour per cent. The important item of the Easter morning breakfast is eggs. Now, a daintily served breakfast with eggs need not be expensive, as some would think, but rather quite inexpensive, especially on the farm. Some little originality and forethought in planning and a moderate amount of good taste in serving will also do well. We have for breaktast, hard-boiled eggs and soft-boiled eggs, scrambled eggs and eggs on toast, poached eggs and egg balls, stuffed, baked, and fried eggs, the dish of flaky custard, and the light and fluffy omelet. It is told of Napoleon I. that, attempting to make an omelet, he failed in the cooking, and exclaimed, "I have given myself credit for more exalted talents than I possess." Sir Henry Thompson declares the omelet "to be one of the most delicious and nutritious products of culinary art, with the further merit that it can be more rapidly prepared than any other dish." The way our omelet is prepared is as follows: One egg, one tablespoon of milk, a dash of salt and pepper, and a little cheese. Beat the white and yolk separately, add the milk to the yolk and also the salt and pepper,. and then the stiffly beaten white is folded lightly into the yolk. It is now poured into a hot pan which has been buttered and is waiting upon the stove. Grate a bit of cheese over the surface, and when all is firm, slip a knife under and fold one side over, and serve immediately on a warm

Now, we have not told you of all the good things we had, nor of all the joys of that day, but we hope we have encouraged you to spend next Easter at the country home where you will see it all in reality.

THE INFLUENCE OF PHYSICAL TRAINING ON AMERICAN LIFE.

BY BERTHA FRANCIS FAIRCHILD, '94.

PHYSICAL culture may be called a national "fad," so universal do we find the craze in one phase or another. From athletics to dress reform and elocution it is physical culture, until even Bridget dares no longer be lazy in the old-fashioned manner, but is found "a reposin" Delsartean, mam."

It would scarcely be American if we rode our hobby at any jog-trot gait, and the present boom in athletics even Sparta might consider with astonishment. Just for what purpose the modern college exists is indeed a matter of question to some—whether it is for the promotion of athletics, or whether athletics are but the brass band part of the show; for though seriously considered by one of our great colleges, as yet no chair for this department has been established in any college. But certain it is that the renown of the ball team is the basis of the modern boy's choice of a college. His studies, as one of them wrote home, are "foot ball, required; base-ball and hare-and-hounds club, elective; incidental require-

ments, attendance on recitations in Greek, Latin, and calculus." The event of the year is the season of the annual tour of the ball teams. when nights are made hideous with jollifications or hilarious the funeral ceremonies, and day is passed at telegraph offices with an anxiety that may, perhaps, be approached in later life once in four years.

The girl is more æsthetic. She started with the idea that the body should be made the obedient slave of the intellect, and, with Diana as her model and Delsarte as her teacher, she, too, has been carried away by the claims of physical culture. In her pretty, flowing robes, with her graceful poise and perfect health, she challenges our admiration, and we gladly accept her for the fainting, hysterical belle of former days, whose waist you might span with your hand.

Yet what is to come of all this? Is it the nature of man that, when he has attained to a certain point of civilization, he lapses into savagery again, and is this the way we are going to do it? One cannot but feel like asking the question in all seriousness when he reads the accounts of some of our college ball contests and cane rushes. Yet we must be convinced that these are but the attendant evils of our American style of booming every good thing. Underneath it all is steady, sensible appreciation of the need of bodies that shall be able to bear the burdens laid upon them. Already we are known as a dyspeptic people; everywhere we hear it, "We live too fast;" and it has become a serious question with us how to sustain the intense life of the nineteenth century. Gradually we are learning that sound minds and sound bodies must go together; and if America is to progress as she has done, she must give her sons and daughters physical training, as well as mental. And so, aside from this extreme craze, wise and helpful provisions for this are now made in almost every school, such as will have a beneficent influence on our national life.

In most schools, attendance on gymnasium is compulsory; competent instructors are in attendance, and every pupil has personal supervision. In many ladies' schools, the young ladies are compelled to adopt an easy style of dress, and where it is not required it usually comes of itself after a few months of healthy development.

In a modern gymnasium, with its great hall furnished with ladders, trapezes, chest weights, and swimming pool, and almost every imaginable device for exercise, who could resist the longing of his physical nature to revel in savage freedom? And when we see a sickly child graduate a strong, robust man, the dyspeptic become a cheerful, helpful person, and the drunkard a sober citizer, why should we not feel that the gymnasium is to solve for us many of our nineteenth century problems? For with a physical power that shall equal our mental capacity, we may expect sensible, contented citizens, wise and thoughtful statesmen, and thus realize that ideal government " of the people, by the people, and for the people."

SCIENTIFIC AGRICULTURE.

W. J. C. writes: "Is it your observation that those who pursue a course in scientific agriculture are the most successful farmers?"

Do the men who pursue a course of law at a university law school always make the most successful lawyers? The cases are similar. Both are better equipped for their professions; whether either will make a successful farmer or lawyer depends on the man. The man who graduates in a course of agriculture is no more a farmer than the man who graduates from a law school is a lawyer. They have simply learned how to work at their business. Whether they work at it and succeed depends on the brains and energy of the men themselves. The graduate of the law school

may find that his tastes lead him into politics or journalism; and he makes a success in one of the lines, but not a successful lawyer.

The graduate in agriculture may find that his tastes lead him in the line of one of the sciences he has studied; and he may become a successful chemist, botanist, horticulturist, or a teacher of them. In either event, the training of the men has been the reason of their success in life; and their special education can not be termed a failure simply because they did not practice law or cultivate a farm. Another man may take a course in agriculture and become a good farmer and yet not make a success, if by success we mean simply the accumulation of wealth; for that, too, is simply in the man, and outside of any special learning.

There has been for years a growing change in the methods of agricultural education. A majority of our agricultural colleges fell into bad repute with practical men because in the outset the chairs of agriculture were mainly filled by men who were merely agricultural chemists—very good men in their way, but they lacked the broad comprehension of the subject which comes only with long practical experience in actual farm operations. The lack of practical instruction under such men was so apparent that, in some institutions, the reaction against mere theoretical instruction went too far the other way, and the manual-labor idea was glorified to such an extent as to interfere with the intellectual training.

Of late years there are signs of improvement, and men are sought for chairs of agriculture who, in addition to a thorough scientific education, have also had long practical and successful experience as farmers. The colleges are increasing their facilities for laboratory work, and laboratory methods are prevailing in all the departments. The laboratory is, of course, regarded as the only place to study chemistry properly; and now the botanical laboratory, with its microscopical equipment, comes in as a practical means for the study of plants, and botany is no longer taught simply as a means for finding out the names of plants. The greenhouse and the garden are parts of the same laboratory, and the farm is the general laboratory where the theories of the lecture room are demonstrated, and it is no longer regarded merely as a place to teach and "dignify" manual labor, as some orators have it.

But, that a young man who pursues such a varied course, opening out lines of work in so many ways, does not become a farmer is no argument against a course in scientific agriculture. If he elects to be a farmer, he will be a farmer, and a better one than if he had not studied the course. One thing is very certain: he will never go back to the farm and skin the land in the old ruts. If he farms, whether successfully or not, he will be a benefit to his neighborhood. If he becomes a professional chemist or worker in other lines, it will be because his course of study has fitted him for success there. In any event, the country will be blessed by the course of scientific agriculture.

As we said in the beginning, a course in agriculture is only intended to teach men how to apply scientific knowledge; skill as a practical farmer comes only by practice in actual farming, just as skill comes to the lawyer or doctor.—Louisville (Ky.) Farm and Home.

The Postoffice Building Bill, giving Kansas 59 new buildings, has passed the House.

The most happy spot in the business situation is still the prosperous condition of the farmers. They have marketed their crops and are still sending grain to market, and are getting good, although not top, prices. The railroads are busy, so that agriculture and the carrying trade, the two chief industries of the county, are well and profitably employed. While this is so there is reason to hope that eventually the whole trade situation will receive an impetus from them, in spite of present discouraging features.—The Congregationalist.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 - 93. Fall Term-September 8th to December 16th.

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Corn planting will probably begin Monday on the College farm.

The College Brass Band drilled on the campus yesterday afternoon.

The hum of the lawn mower was heard this morning for the first time this season.

The total receipts to date from all resources for the Educational Exhibit Fund is \$744.

President Fairchild was called to Topeka on Tuesday afternoon on College business.

The young horticulturists are beautifying the grounds by the addition of evergreens and shrubs to the already handsome clumps.

Mr. L. A. Palmer, of the Clifton News, visited his sisters Inez and Elva Palmer, yesterday, and attended the Ionian exhibition last evening.

The peach trees were uncovered and raised this week-just in time for the buds to be slightly damaged by the light hail storm of Tuesday afternoon.

Mr. and Mrs. Boles, of Kansas City, are spending a week with the brother and sister of Mrs. Boles, Charles and Mabel Selby, who are in College.

Prof. Olin has been confined to his room this week by illness, the longest, and almost the only occasion of the kind since his connection with the College. His classes have been cared for by Professors White and Rain. He will be ready for duty on Monday, he thinks.

Mrs. Agnes Fairchild Kirshner of Kansas City is visiting her parents this week. Mr. Kirshner is expected today, having recovered from the attack of diphtheria which led to sending their little boy some weeks since to stay with his grandparents for safety against exposure to the disease.

The College Museum has received this week from R. A. Clark, who left for Sitka, Alaska, this year, a fine specimen of work of the shipworm. Mr. Clark writes of enjoying his teaching as Assistant Superintendent in the School maintained by the Presbyterian Board of Missions for the natives. He finds a wonderful talent for music among them.

Ex-Governor Cyrus G. Luce, of Coldwater Michigan, has accepted the invitation of the Regents to deliver the annual address of Commencement week at the College, on the evening of June 7th next. Governor Luce has long been known for his interest in agricultural education from the standpoint of a successful farmer as well as a prominent leader in the Grange organization for culture among farmers. He is an energetic, earnest speaker about practical things in a practical way, and deserves an audience of the best men and women of the State.

The third annual exhibition of the Ionian Society, held last evening in the College chapel, called out a large audience. The programme was well prepared, and occupied two and a half hours. The list of topics and names follows:-PROGRAMME.

> Ionian Orchestra. Invocation. "I" Chorus.

Man's Sphere Address. Alice Vail. Birds of Spring Quartette. Humorist or Poet, Which? Discussion Hortensia Harmon. Maude Knickerbocker. Tableau. Eusebia Mudge OracleThe Fishermen Duet Recitation The Chariot Race (An original adaptation of J. T. Christine from Lew Wallace's Ben Hur) Marie Haulenbeck. . The Band .. American Hospitality Oration..... Ora R. Wells. Piano Solo, with Variations.

GRADUATES AND STUDENT S

Grant Selby, Second-year in 1882, came in today from Chicago.

Julia Pearce, '90, has bought a small farm near Stockdale which her parents will occupy.

Maud E. Whitney, Third-year in 1890-1, is visiting College friends this week.

Pearl Bartlett is rejoicing in a visit from her mother, Mrs. John Bartlett, of Poe, Kansas.

Hugh Mattoon, who left College last term for lack of health, is visiting friends here this week.

Julia R. Pearce '90, has been kept from her teaching and office work three days this week by illness.

Mima Carey, Second-year in 1888-89, has gone to Marshalltown, Iowa, to teach a summer

Helen Harrison is obliged to leave College for the remainder of the year on account of her mother's illness.

R. K. Peck, Fourth-year in '84-5, is postal clerk on the Missouri Pacific railway between Kansas City and Osage City.

A. C. and Gertrude Havens were called away from classes for several days this week by the death of a brother.

Bertha H. Bacheller, '88, writes from Sterling for the addresses of the class of '88, that she may start the annual class letter.

S. S. Cobb, '89, is to be married to Carrie Hunter, Second-year in 1887-8, on May 4th, at the Presbyterian Church.

M. W. McCrea, Third-year, visited Topeka on Wednesday to be near a sister upon whom a surgical operation was performed.

C. A. Campbell and D. C. McDowell, '91, have been received by the Presbytery at Junction City as candidates for the ministry.

Mary Cottrell, '91, visited her sisters and friends at College yesterday. She reports a successful winter's teaching, but rejoices that "school's

The journal of the proceedings of the eighteenth annual session of the Colorada State Grange is received with compliments of D. W. Working, '88, Worthy Master.

C. W. McCord and R. Long, former students, after completing a term of teaching, have gone to the State Normal School for special reviews of common branches and study of methods.

W. E. Currie, student in 1889-90, after spending a year in the classical course of Monmouth College, Ill., is now traveling as State Agent in Kansas for "Kings of the Platform and Pulpit," edited by Eli Perkins.

F. A. Waugh, '91, for nine months past agriricultural editor of the Kansas Capital, has accepted a like position on the Farming and Mining Journal of Helena, Montana, with a substantial increase of salary. While the INDUSTRI-ALIST regrets the loss to Kansas of this fluent writer on agricultural and allied topics, it rejoices in the recognition of his worth, and wishes him success in his new field of labor.

While at Emporia last week Professor Walters met the following graduates of the Agricultural College: John Davis, 'GO; K. C. Davis, '91; Myrtle Harrington, '91; and former students E. B. Bacheller, Chas. McCord, O. G. Harmon, Ross Long, Sadie Kirby, M. Kirby, Emilie Kitlans, F. W. Ayres, S. V. Huffman, Horace Coulter, Carrie Hall, and Maggie Purcell. Most of these are now in attendance at the State Normal, some are teaching in central Kansas, and Miss Purcell and a younger sister are students at the Presbyterian College.

Farmers are so anxious to have their children lifted above the drudgery of the farm that too often they do not impress the boys with the dignity of labor. If the boy could only know how much freer from care and vexation is the independent farmer than the merchant, in whose face ruin so often stares, he would be content to remain on the farm, and not only to remain, but to study the stupendous subject of agriculture in all its vast and interesting phases, and he would find that in developing the subject he has unconsciously broadened and cultivated his own thoughts and ideas .- Orange Judd Farmer.

COLLEGE ORGANIZATIONS.

STUDENT EDITORS.—Ora Wells, D. H. Otis. C. P. Hartley.

The Alpha Beta Society was called to order by President Clothier. First on the program was music, an organ solo, by J. E. Mercer. Prayer by Miss Fryhofer. Roll call. An essay well gotten up and well read by W. H. Austin, on "Student Life," in which he gave one's anticipation of college life and his realization of it after having spent several months here. Next on the program was a declamation well delivered by G.D. Hulett. Debate, "Resolved, That education is a better foundation for success than money." Argued affirmatively by J. N. Harner and Inez Palmer, and negatively by May Secrest and Elva Palmer. The Judges, Messrs. Gardiner, Thompson, and Axtell, decided two to one in favor of the affirmative. The next in order was reading of the Gleaner, by E. H. Riden; motto, "Five days shalt thou labor, and on the sixth hunt botany specimens." Recess. Music, a trio, by Messrs. G. L. Clothier, E. J. Abell, and W. O. Lyon. Newsman's report. Extemporaneous speaking on various subjects by different members of the Society. Assignment to duties. Report of Critic. Reading of minutes. Congregational singing. Adjournment.

April 16th.

The Webster Society was called to order by President Sears. After the reading of the minutes, Mr. Edelblute led the society in prayer, after which the new officers took the oath to fulfill the duties of which the society had elected them, with fidelity and trust. The new officers then assumed their position of trust. Ex-president Sears's valdictory was followed by President Otis's inaugural. Both were ut ique in expression, setting forth the objects and aims of the Society in vivid manner and all were impressed by the truthfulness of the remarks. Mr. Hardy was unanimously elected a member of the Society. Question for debate, "Resolved. That a Republic is the most stable form of government." The affirmative was opened by Albert Dickers, who fluently upheld the republican form of government. The gentleman ably compared this form with all the oriental forms, and showed how well our form of government keeps its equilibrium. Negative was well handled by E. A. Donaven. He skillfully showed that the republic is not a stable one, by citing numerous illustrations where violent uprisings have shaken the republics, while other forms are peacefully progressing. Mr. Wheeler continued the debate on the affirmative by bringing forth other arguments. The negative was continued by Mr. Ginter. He cited other examples where the republican form of government had lost its equilibrium. The Society decided the question in favor of the negative. Declamation by C. H. Paul. He clearly proved to the Society the effort he had taken before appearing in public. Declamation by G. A. Dean, entitled "Behind Time." Essay, D. C. McCauly; subject, "Works of the Beaver." He related some of the works of this sagacious little animal. Essay, Mr. Pagett; subject of his paper being remarks regarding sheep. Discussion by Ed. Platt; subject, "Bi-chloride of Gold, and its application as a remedy for drunkenness." He informed the Society of experiments that led to this great discovery. This treatment is applied externally by means of a hypodermic syringe three times a day for three days. After this the patient emerges a new creature with glistening eyes and contented mind. Discussion, T. W. Morse, in which he gave the Society some information regarding hog cholera. Mr. Evans favored the Society by a select reading. His humorous selection was well relished by the members. A. L. Niemoller presented the news of the past two weeks. Music was furnished by a quartette corsisting of Messrs. Shoup, Gibson, Royer, and Patten, Mr. Peck accompanying on the organ. After this the Society passed to the order of business.

The Hamilton Society was called to orber by President Smith After roll-call the Society was led in prayer by J. L. McDowell. Minutes of last meeting were read and adopted. The programme of the evening opened by a well delivered declamation by Mr. Barnett. Select reading by D. J. Thompson was quite amusing. The Society was next favored by some music rendered by C. Abbott and W. J. Yeoman. Debate, "Resolved that the third party under its present conditions should be encouraged." was argued on the affirmative by F. R. Smith and Mr. Bergman; on the negative by C. Abbot and G. G Boardman. The affirmative argued that the third party was on the decline and should be encouraged to fall. That the third party was not and never would be a success. The third party newspapers have been a detriment to this state by circulating reports of the great indebtedness of the farmers of Kansas while in reality the farmers of Ohio are deeper in debt than the farmers of this state. The farmers make up the greater part of the third party and they are not educated in politics and are not capable of making good laws. The third party has not been a benefit in educating the people as is often claimed. That for the government to buy and control the railroads was an impossibility. The loaning of money to the farmers at a low rate interest would not be a benefit to the farmers as there would be more money borrowed and many farmers would go in debt where they would not otherwise. The leaders in the third party were mostly disappointed office seekers from the old parties and as a rule were not the best of men. The negative argued that the party was not losing ground, but that it was its infancy and would soon be a strong party. That the third party had not been a detriment to the state and that the party was made up of the best of men and men capable of filling any of the offices of our Government. The farmers are educated in politics and should have a share in making the laws as they represent the greater part of the people, and should have some laws to their interests. The public buildings the party proposes to build would be a benefit to the people, and that the railroads could be controlled by the Government as is shown by countries which do own and control their own roads. Judges Hartley, Frowe, and Smith decided unanimously in favor of the affirmative. Music, Messrs. Doll and Smith. Oration, V. Emrick. After some time spent in business the society adjourned.

On the smooth surface of a macadam road one horse will haul twice the load that the same horse could on the best dirt road, and from five to ten times as much as can be hauled by a single horse when the dirt road is covered with soft mud and ruts .- Our Grange Homes.

- 4NSAS EDUCATIONAL NOTES.

PROM. J. D. WALTERS.

The Kansas Committee on Transportation for the coming meeting of the National Educational Association selected the Erie railroad as the route east of Chicago. For any further particulars, address J. N. Wilkinson, Emporia, State Manager.

Among the names likely to come before the political conventions for nomination for State Superintendent, we find those of O. C. Hill, E. T. Barber, F. H. Clark, D. S. Pence, C. Y. Roop, J. R. Bickerdyke, G. W. Kendrick, E. Stanley, M. L. Zercher, and C. M. Light. It ought to be a very easy thing to select a good man from such good material.—Normal Quarterly.

According to the Beacon, there has been a good deal of trouble at Baker University this winter and spring with regard to the conduct of the leaders of one of the literary societies. The Beacon says: Ballot-box stuffing, false election returns, profanity and vulgarity of the grossest type, and perjury are crimes that have been practiced within the last four months in the society in question.' The Faculty finally took the matter in hand, disbanded the society, and suspended or expelled the ringleaders. There is still a good deal of excitement among the students, many of whom think that the societies are sovereign institutions.

The international meeting of the Kansas Academy of Language and Literature met in Baldwin, April 7th and 8th. The evening lecture on Thursday was delivered by President T. E. Dewey, of Abilene. The programme, which contained six papers, was well rendered, and many new names were added to the membership list. The officers elected for the ensuing year are: President, Prof. Ida A. Ahlborn, Baker University; Vice-President, A. D. Gray, Topeka; Secretary, Miss Florence Snow, Neosho Falls; Treasurer, J. W. D. Anderson, Neosho Falls; Executive Committee, T. E. Dewey, Abilene, Prof. C. D. Dunlan, Lawrence, Prof. L. D. Whittemore, Topeka.

On October 12th, the 400th anniversary of the discovery of America, the World's Columbian Exposition Grounds will be dedicated in Chicago. But the day of the finding of America ought to be celebrated everywhere in America. Moreover, all these local observances should be linked together as parts of some national system, in order that the full significance of the day be brought out. It is accordingly proposed that our most representative American institutions, the public schools, be the centre of each local celebration. Both the World's Congress Commission of the Columbian Exposition and the American Superintendents of Education have requested that the public schools of each city and town lead in the local celebration. These two bodies have also appointed a joint Executive Committee to direct the movement and to prepare a uniform and fitting programme for universal use.

The annual meeting of the Central Kansas Teachers' Association, held last week at the State Normal School, at Emporia, was a success in every particular. The attendance was fair, the programme rich and well rendered, and the weather warm and bright. Chancellor Snow of the State University delivered a lecture on "Evolution," which was well received by the audience; Secretary R. W. Stevenson of the National Educational Association read a paper on "Modern Methods in Public School Education;" Profr L. C. Wooster, of Eureka Academy, spoke of "Our Friends and Foes in the Animal World;" I. C. McNeill, Assistant Superintendent of Kansas City, Missouri, read on "Making the Constitution." Several other good papers were read, and the programme was interspersed by model exercises in school and normal work rendered by the Normal School classes. The students took a lively interest; the exercises and the institution appeared in its best clothes—every department of it.

At the meeting of the Executive Committee of the Alumni Association of the Law School of the Kansas State University, Samuel Bishop, County Attorney of Douglass county, was chosen to deliver the alumni oration at the June commencement. William Warner, E. L. Scarritt and Judge J. McD. Trimble have accepted invitations to deliver lectures before the law school during the present term.

Labor with your mind, as well as your hands; and do not over-tax either, for to be successful you will need both.—American Homestead.

KINDRED INSTITUTIONS.

"Fodder" is the subject of Bulletin No. 15 of the Nevada Station, Reno.

"Scarlet clover" is reported upon in Bulletin No. 16 of the Deleware Station, Newark.

Bulletin No. 2 of the North Dakota Station reports upon experiments with sugar beets.

Meteorological bulletin No. 39 of the Hatch Station, Amherst, Massachusetts, is at hand.

The Fourth Annual Report of the Storrs School Agricultural Experiment Station, Storrs, Connecticut, is now at hand.

"Injurious Insects" and "Plant Diseases" are the subjects of bulletin No. 21 of the West Virginia Station, Morgantown.

Statistician Dodge shows in Bulletin No. 94 of the U. S. Department of Agriculture the condition of winter grain in the grain-producing States.

The Monthly Weather Review for January, 1892 is just received from the Weather Bureau of the U.S. Department of Agriculture, Washington D. C.

Bulletin No. 71 of the Ontario, Canada, Station, Guelph, reports on experiments with spring grains, Bulletin No. 72, reports upon roots, potatoes and fodder corn.

Bulletin No 1. of Vol 5 of the Ohio Station, Columbus, shows comparisons of varieties, distribution of see, methods of planting, and treatment of smut oats.

Small fruits, treatment of powdery mildew and black rot, and vegetables are the subjects reported upon in Bulletin No. 38, Vol. 3, of Purdue University Station, La Fayette, Indiana.

Bulletin No. 81 of the Michigan Station contains notes on strawberries, raspberries, Russian fruits and orchard fertilizers. Bulletin No. 82 shows results with sugar beets for 1891.

The Kentucky Station, Lexington, reports upon commercial fertilizers in bulletin No. 36; experiments with potatoes in Bulletin No. 37; vegetables and strawberries in bulletin No. 38; and marls in bulletin No. 39.

Bulletin No. 4 of the New Mexican Station Las Cruces, deals in experiments with fruit, forest, shade, and nut-bearing trees, and vegetables. Bulletin No. 5 reports upon vine leaf hopper, codlings moth, root borers, and green June beetle.

The Annual Catalogue of Massachusetts institute of Technology, Boston, is a bulky publication of nearly 250 pages, and contains, beside the list of officers, course of study, etc., a complete roster of graduates with their present occupation.

Experiment Station Bulletin No. 10, of the Office of Experiment Stations, Department of Agriculture, Washington, D. C., contains suggestions for Meteorological work for agricultural institutions by the chief of the U. S. Weather Bureau.

Bulletin No. 11 of the Utah Station, Logan, shows results from blanketing horses and cattle, sheltered versus un-sheltered cattle, exercise versus non-exercise of stock. Bulletin No. 12 gives results of experiments with garden vegetables under irrigation.

Farmers' Bulletin No. 7 of the U. S. Department of Agriculture deals in spraying points for insect pests and fungous diseases, with special consideration of the subject in its relation to public health. Address Secretary of Agriculture, Washington, D. C.

Bulletin No. 16, of the Iowa Station, Ames, is a large one, and reports upon flax-seed meal and oil meal, crop report for the farm department, varieties of potatoes, corn-growing, experiments with fungicides, what to plant on home grounds, hints for beginners in dairying, lice affecting domestic animals, sugar beets.

The Chief of the Weather Bureau has just sent a special report on rainfall in Washington, Oregon, California, Idaho, Nevada, Utah, Arizona, Colorado, Wyoming, New Mexico, Indian Territory, and Texas which covers a period of from two to forty years of observation and record at the various stations named. It is accompanied by a large series of charts and tables which are of special value to the student of western meteorology.

Public Document No. 4 of the Commonwealth of Massachusetts contains the thirty-ninth annual

report of the Secretary of the State Board of Agriculture and the ninth annual report of the State Experiment Station. Many valuable papers on Agriculture,—care of stock, stock diseases, insect pests, road building, fruit growing, dairying, etc. are contined in this volume.

Andrew Carnegie is worth \$30,000,000, and he says he means to spend it, before he dies, in public libraries, music halls, and schools.

Stop milking the cow that will make only 125 pounds of butter a year. You have the power, if you but use it, of milking a 300-pound cow.

— John Gould.

MANHATTAN ADVERTISEMENTS.

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REBATE TICKETS given on all cash sales. For tickets amounting to \$5.00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

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SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

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ASSISTANTS IN EXPERIMENT STATION.

S. C. MASON, B. Sc., Horticulture, Foreman of Gardens. F. A. MARLATT, B. Sc., Entomology. WM. SHELTON, Foreman of Farm. F. C. Burtis, B. Sc., Agriculture. M. A. CARLETON, B. Sc., Botany.

COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan

Commissoner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early not the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE RED CROSS.

BY PROP. EDWIN B. BOLTON, (Captain Second Infantry).

RED cross is the insignia of Good Samaritan deeds. It originated in the humanitarian spirit of the age, and symbolizes aid and comfort to the suffering in bodily distress. It may be treated under two heads, the one a civil, the other a military branch. The civil branch consists of a philanthropic association of citizens whose avowed objects are to solicit voluntary contributions for a suffering people in times of great calamities, during peace or war, with which to furnish aid in that systematic, business-like manner which secures greatest relief to the community. The military branch is regulated by international treaty, which encourages and assures respect for, as well as protection to, those who administer aid and comfort to the sick and wounded of hostile armies in time of war.

The civil branch in America, called the "American Red Cross Society," was organized in 1881, with Miss Clara Barton-that noble woman of many high and honorable decorations whose Samaritan deeds claim a world-wide fame, and whose very name every Union soldier of the late war has learned to revere—as its president, and has become pretty generally known throughout the country, by reason of the immense good it has done in dispensing to suffering humanity on numerous occasions of epidemics, overflows, starvation, or other deplorable calamities which have befallen the people of certain localities in this and foreign countries.

The Red Cross, however, as an insignia in the military service of this country, is of such comparatively recent adoption that the significance of its display has scarcely become known, and is not, therefore, thoroughly understood and appreciated. Ask any old soldier of the late War of the Rebellion what the display of a yellow flag, having a green letter H in its center, implied; or what a green-bordered yellow guidon signified: and his countenance will soften as he replies in sympathetic tones, "They indicated to the enemy where our sick and wounded lay, that they might not intentionally fire upon them or otherwise needlessly harass them." He might further add that there was no law requiring it; but the belligerents entertained a mutual kindly feeling for each other in distress, and a tacit understanding sanctioned the practice as a custom between civilized people.

What was then a mere refined custom, sanctioned by tacit understanding, has now culminated, through treaty in convention, into a recognized principle of international law, which no Christian nation can today ignore, because the world is growing better, and the refining influence of Christianity has eradicated from the breasts of all civilized people a savage thirst for gore; has taught them to recognize that war (not the ravages and horrors resulting from war) is only a matching of the physical powers of men, amid the clash of arms and din of strife, to decide the supremacy in a difference of opinions as to right principles and honor; taught them, also, to realize that a sick, wounded, or otherwise physically disabled opponent is powerless as a formidable element of further opposition in the match, and that further infliction of injury to his person displays a fiendish act of execration, rather than a Christian deed of commiseration.

Having thus separated the harmful from the harmless elements of opposition in the cause, and learned to discriminate in a belligerent a desire to eliminate the one and a humane desire to preserve the other, experience has further enabled those

engaged in the conflict to perceive that sympathy for, and aid to, the wounded in battle could be expedited by both sides agreeing to respect, as inviolately privileged, all persons who are designed to administer to them in their helpless condition of distress; likewise all articles, implements, and other accessories as well.

Having recognized the necessity of such a privilege, a convention between the United States, Baden, Switzerland, Belgium, Denmark, Spain, France, Hesse, Italy, Netherlands, Portugal, Prussia, Wurtemburg, Sweden, Greece, Great Britain, Mecklenburg-Schwerin, Turkey, Bavaria, Austria, Russia, Persia, Roumania, Salvador, Montenegro, Servia, Bolivia, Chili, Argentine Republic, and Peru, for the amelioration of the wounded in armies in the field, was concluded August 22nd, 1864, acceded to by the President of the United States March 1st, 1882, and his accession concurred in by the Senate March 16th, 1882. It binds the contracting parties to acknowledge hospitals and ambulances, with all their appurtenances, as neutral; and requires belligerents to protect and respect them so long as any sick or wounded may be therein. It also provides that all surgeons, chaplains, ambulance drivers, nurses, hospital attendants, etc., shall be permitted to remain on the battle-field or in the hospitals, and continue their duties unmolested, so long as their services of administering to the sick and wounded are required; and stipulates that they shall be returned unmolested in person and private property to the armies to which they belong, carrying the ambulances and their appurtenances back with them. It also stipulates that the inhabitants of the country who may bring help to the wounded shall be respected and remain free; and that protection shall be given to any house where the wounded are received and cared for, such houses to be exempt from the quartering of troops, and the owners from a part of any contributions of war which may be imposed. It encourages in many ways the offering of relief and kindness to the wounded. In order to designate what houses, hospitals, tents, ambulances, and persons are to be exempt from molestation and recognized as neutrals, a distinctive uniform flag and badge are specified. The hospitals and ambulances are required to have a red cross on a white ground; and persons are to wear an insignia, called a "brassara," on their arm, which is also a red cross on a white ground.

The following are the flags used in our army in accordance with the requirements of this conven-

For general hospitals, white bunting, 9 by 5 feet, a with cross of red bunting 4 feet high and 4 feet wide in the center; arms of the cross to be 16 inches wide.

For post and field hospitals, white bunting, 6 by 4 feet, with red cross of bunting 3 feet high and 3 feet wide in the center; arms of cross to be 12 inches wide.

For ambulances, and guidons to mark the way to the field hospitals, white bunting, 16 by 28 inches, with a cross of red bunting 12 inches high and 12 inches wide in the centre; arms of cross to be 4 inches wide.

A brassara of white cloth 16 inches by 3 inches, on which is a red cross 2 inches by 2 inches, to be worn on the cuff of the left arm.

The articles of this convention have resulted in making further provisions for the care of the wounded in our army. A hospital corps has been organized, with trained nurses and attendants; and four men in each company, designated "company bearers" are drilled by surgeons in the various manners of handling and bearing off the wounded; also trained as to the best way to staunch bleeding wounds, and give early relief in many ways to the suffering.

A PLEA FOR STUDENTS. BY FRED. HULSE, '93.

As students go out into the world and converse on various topics, they are surprised to find they are expected to know much more than they anticipated. But this is the experience of others as well as students. When a person has purchased a new machine, he is expected to be able to run it. And such an experience is still more striking when one has purchased some kind of a musical instrument. His friends will gather around him to hear him play, and if he is unable to as yet, they seem disappointed and wonder why their friend had bought the instrument. Such persons might just as well expect a boy to know how to swim before he goes into the water.

Probably one reason for this is that some people do not stop to think that the student has but a very short time to prepare on the various topics that come within his range of thought. Another reason is that many students do not know nearly as much as they might. But on an average too much is expected of them. The old advice, "Know more than you are expected to," is very hard to follow under such circumstances. For example, some people seem to think that any student should know all the details of general history; all questions concerning entomology, botany, chemistry, civil engineering, physics, literature, geometry, trigonometry and surveying, zoology, physiology, etc. Either of these one may spend a lifetime studying, and then know but comparatively little about it.

To be sure, the elements of such studies as these, with others that might be mentioned, are included in a four-year's course. Such is the general education,—an idea in general of the different sciences and arts,—an introduction, as it were, to the world. Then let those who are disappointed because some one who has attended college knows less, as they think, than he ought, stop and consider the impossibility of cramming all desirable knowledge into a college course; let them be satisfied if they find students better prepared to learn for the rest of life, so that the dear school of experience may be a trifle less expensive, at least, than usual.

BOOK KNOWLEDGE AND EXPERIENCE. BY AGNES ROMICK, '93.

O desire is more natural than that for knowledge. We try all ways that can lead to it, and when reason is wanting we employ experience. The experience gained from books, however valuable, is of the nature of learning; while on the other hand, the experience gained from actual life is wisdom, and worth a great deal more to the practical man than the former experience. There were wise men before there were printed books.

The men who wrested from tyranny Magna Charta, one of the charters of liberty on which the English based their political rights, could not write their own names; and Walpole, who scorned literature, held power for thirty years. We may well accept the truth of Lord Mahon's saying, that "Walpole's splendid success in life, notwithstanding his want of learning, may tend to show what is too commonly forgotten in modern plans of education—that it is of far more importance to have the mind well trained than richly stored." The latter is like the mind, crammed, as we say, just about examination time.

We find every day men of high culture that are driven to the practical dunce who wants to take the lead. Many of our greatest men were born in the back-woods, and the strongest hand that has held the helm of our government belonged to one

whose biographer pronounces him "the most ignorant man in the world."

All experience shows that for worldly success it is far more important to have the mind well trained than to be rich in learning. Books, Bacon has well observed, can never teach the use of books. Some of the world's most useful work is done by men who cannot tell the chemical composition of the air they breathe or the water they drink, who, like Jourdan in the story, and a great many others, talk nouns, verbs, and adverbs without knowing it. If you should chance to ask them what a noun or a verb is they would think you were talking Latin to them. They know nothing of agricultural chemistry, but can produce sixty bushels of corn to the acre. In short, the crown of faculties is common sense. The secret of success lies in being alive to what is going on around one; in being sympathetic and knowing what people want; and saying and doing things at the right time and in the right place. Knowledge adds greatly to the usefulness of experience, but cannot take its place.

BETTER HORSES. BY PROF. N. S. MAYO, D. V. S.

WHILE the subject of better roads is attracting so much attention, it is well not to lose sight of the motive power to be used upon the improved roads.

Mechanical motive power, aside from the bicycle, is still in its infancy, and for some time in the future we must continue to place our dependence in horse flesh as the great force to be utilized in transporting the produce of the country to the market towns. The improvement of the highways naturally calls for improved horses, just as an improved road-bed of a railway calls for improved engines, in order to utilize to the fullest extent the outlay. It is poor economy to use dilapidated and weak engines as a motive force, and it is just as poor economy, even though not quite as apparent at first, to use a weak and dilapidated horse.

There is another reason why good roads will aid in developing better horses, aside from the ease of transportation, in that good roads lessen the liability of injury to the horse. There is no one cause that produces sore shoulders so quickly as a heavy load and a rough road, with continual jerking of the neck-yoke from side to side as the fore wheels of the heavy wagon drop into ruts. The jerking caused by ruts and sharp, heavy pulls are fruitful sources of strains and sprains with their accompanying evils of ring-bones, spavins, and curbs, especially in horses predisposed to these ailments. In horses of a nervous temperament, the continual wrenching upon rough roads causes fretting, and what is true of man-"fretting and worry pull an individual down faster than work"—is equally true of a horse.

The best horse for the better roads we hope to have must depend upon the use to which the horse is to be put. If for road work entirely, there is no better horse than the American trotter. He has the ability to get over the ground fast, and the stamina to stay at it a long time. But for the tarmers, those who will use the roads the most, a horse that has more weight is required.

Upon the question as to the best horse for the farmer, Judge Sutton says: "For some, roadsters are best; for others, heavy draft horses; and for others, no horses at all; and for others camels or elephants would be best. It depends directly upon the kind of farmers." For ordinary farm work, however, a horse of medium weight is best. The case is similar to that of men employed at ordinary manual labor. Medium sized men on an average will do more work with greater ease than very large or very small men, and usually have better constitutions. If large horses are desired, they should be active. A big horse without action is of little use on the farm.

It costs no more to raise a good horse than a poor one; and a poor, weak, slow horse is dear at any price. The extra time required by a poor horse to do inferior work in the course of a very short time amounts to a good deal, not counting the "wear and tear" upon the patience or pride of the man who works him.

When farmers and stockmen relinquish the idea that any mare that will breed, no matter how many ring-bones, or spavins, or other ailments she has, is good enough to raise a colt; when they pay as much attention to the selection of the dam as of the sire, since it is just as important, better horses, freer from common lameness, that are the bane of horseflesh, and more economical in every way, will result.

AN HOUR ON THE PIKE'S PEAK TRAIL.

BY BESSIE B. LITTLE, '91.

WALK from Manitou three miles up the cograil road, climb up the side of the mountain, ensconce yourself on the shady side of a boulder, and watch, for an hour, the scenes and events that pass before you. You sit quietly by yourself for some time listening to the never-ceasing roar of the mountain stream, which has a decided tendency, if the mind is not kept busy with something else, to overcome one with drowsiness. A few minutes elapse and nothing of importance happens until the eye is caught by a little movement on some neighboring rock, as a little gray squirrel whisks out from between the crevices, catches sight of you, and back he goes; or if he happens to be particulary bold, he will eye you for a moment, and sometimes you may reach for a pebble and take aim for a well, directed blow before he sees fit to "take to his little heels."

Your pebble strikes the rock and bounds away while you sink down again, wide awake for this little interruption. You wait but a few moments before you hear what may be the Pike's Peak car or may be but the roaring of the pines. You rise, run down the side of the mountain, across the sandy ravine, down on your knees, your ear on the rail, listen a minute, jump up, and retire to a respectful distance just in time to see the carappearing around the curve some distance above. As it approaches, one can't help noticing the peculiar appearance of the car. Although going down hill, the engine is horizontal on top, the front being higher than the back. Never more than one coach follows the engine: this is not attached, but simply rests against the engine, both in going up and coming down, for in going up the engine is behind the coach, pushing it up, instead of pulling. As the car nears you, you are startled by the most unearthly shriek of the whistle. The sound is held in by the mountains, and is sent back and forth and echoed and re-echoed.

As the car passes you will, perhaps, notice that some of the passengers do not appear as gay as they might; there is a certain meekness about them; they have "been to the top." They have likewise been light-headed; they have been sick at their stomachs; they have been dosed with whisky; they have been sent out of doors in the cold away from the fire; in fact, each one believes he is going to die, and when he don't die he says he guesses the altitude was a little too high for him. As the car goes on down the track, the man (who hasn't had the back of his seat turned over and is, therefore, facing down hill) braces his heels against the seat in front of him to avoid sliding forward. As some one on the back seat takes out his pocket handkerchief and gives it several undue flips, the car disappears around the corner, and you are again in solitude, not long to remain so; for a foot passenger is seen approaching. He also looks bedraggled, and no one need to call out the usual query, "Been to

1891-92. Fall Term-September 10th to December 18tb Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement.

1892-93. Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

The Cadets engaged in target practice yesterday afternoon.

Mid-term examination yesterday was attended with the usual mild excitement.

The Horticultural Department has shipped fifty thrifty cedars to the Beloit Industrial School.

Capt. Bolton is organizing an artillery company which will drill on Thursday at the fifth hour.

All the remaining cedars in the nursery rows will be planted in a few days on the upper farm.

Mr. F. A. Ring, of Manhattan, has presented the Library with twelve bound volumes of the Scientific American.

Beautiful memorial cards bearing the name of Fred Swift Little have been printed to the order of the Fourth-year Class.

The ladies of the Christian Church will provide dinner on the grounds for the accommodation of the crowd on Commencement Day.

The apple and plum trees, notwithstanding the many cold snaps, are full of blossoms, and all indications point to a good yield of fruit.

A game of ball between the College and city clubs yesterday afternoon resulted at the end of the sixth score in a tie of three runs.

Ex-Regent C. E. Gifford, of Clay Center, called at the College on business Thursday morning. He found many improvements since his last visit.

The Westinghouse Company has presented the Mechanical Department with four models of their world-renowned air-brake, for illustrative purposes.

Rev. J. J. Lutz, pastor of the M. E. Church, Manhattan circuit, visited the College yesterday during class hours and found much of interest in his first inspection.

Secretary Graham was called on Monday to the bed-side of his father, who has been seriously ill for a week at Dighton, Lane County. Later .-A letter received from Mr. Graham this morning announces the death of his father Monday night.

Mrs. Kedzie, Mrs. Winchip, and Prof. and Mrs. Hood head a merry crowd of picnicers at Fort Riley today. The party is made up of the special cooking class, the special sewing class, the post-graduates, and several young men from the Third-year and Fourth-year classes.

The College received a visit on Thursday afternoon from Messrs. Cook, Creetch, and McNasby, of Herington, Mr. Harris, of Solomon, and Mr. Wentworth, of Topeka. They were shown the merits of the institution by Messrs. Kimball, Shelden, and Ashbrook, of Manhattan, and expressed great pleasure in their visit.

Prof. Walters gave for the Friday lecture yesterday an interesting and instructive lecture on the economic value of education, concluding that it pays in mere dollars and cents to educate every individual citizen, not only in the elements of learning, but in the essentials of science and industry. His statement that thought puts value into the products of labor was fully and strikingly illustrated by examples.

The College Cadet Band as organized for the Spring Term consists of sixteen pieces, as follows: W. E. Smith, John Taylor, Tubas; E. L. Frowe, Baritone; J. J. Johnson, Tenor; F. R. Smith, M. C. Edwards, Altos; F. Baxter, C. H. Paul, Cornets; R. H. Brown, S. R. Moore, Cornets; R. W. Dull, C. B. Selby, Cornets; J. D. Riddell, E. M. S. Curtis, Clarinets; E. L. Platt, Side Drum; F. W. Ames, Bass Drum; Leader, E. L. Platt.

GRADUATES AND STUDENTS.

Carrie G. Johnson drops out of College on account of a prolonged attack of quinsy.

S. I. Wilkin, in Third-year classes, drops out to help on the home farm near Bow Creek.

J. S. Hazen, '89, changes his Industrialist address from San Francisco, Cal., to Des Moines, Ia.

Dr. H. S. Willard, '89, has returned from a prospecting tour through Texas, and opened an office in Manhattan.

H. F. Guthrie, Secretary of Reform School at Topeka, student in 1887-8, was visiting friends at the College during the early part of the week.

M. M. Lewis, '84, writes of prosperous work as pastor of the First Baptist Church of Nebraska City, Neb., where he has been for nearly two years.

G. K. and Dora Thompson were called to Atchison on Monday to attend the funeral of their aunt, Mrs. Goffs, the mother of Lillie B. Bridgman, '86, J. N. Bridgman, '91, and Irene Bridgman, Second-year in 1888-9.

EXPERIMENTS WITH CORN.

Bulletin No. 30, from the Agricultural Department, entitled "Experiments with Corn," concludes with the following summary:-

1. The results from the experiments with cultivation indicate that it is possible to give too much as well as too little culture. The plats cultivated four times during the season gave the best yields. This is for a wet season, however; in a dry season, general experience points to the conclusion that more frequent cultivation is advantageous.

2. Corn should not be cut before it is ripe. Three years' experiments have given practically the same results. They indicate that there is a loss of at least 30 per cent in the yield of grain when the corn is cut up in the "dough" state, and 50 per cent when cut in the "milk" state. The yield of fodder, too, is greatest when the corn is allowed to ripen, but is inferior in quality to that cut at an earlier stage.

3. Practically the yield was the same, whether large or small kernels were used for seed. The small kernels averaged slightly less sound, marketable ears than the large ones did, but the difference is so small that but little weight can be given to it, and the deficiency was fully made up by a greater yield of small ears.

4. In the trials with butt, middle, and tip kernels for seed, the butt kernels gave the best yields. Only the outermost deformed butt and tip kernels

5. The experiment of growing corn at different distances was tried on partially-exhausted soil, and the corn, therefore, did not grow with the vigor it would on richer soil, nor yield as well. On this soil it was found that small to medium sorts, like Pride of the North, yield best when the rows are three feet apart and the stalks 16 inches apart in the row. Leaming about the same, though the best yield of merchantable corn was reached when the rows were 31/2 feet apart and the stalks 20 inches in the row. St. Charles gave the best yield of marketable corn when the rows were 2 feet and the stalks 20 inches apart. Listed, the best yields were obtained when the rows were 4 feet apart and the stalks 8, 12, and 16 inches apart for Pride of the North, Learning, and St. Charles, respectively; and the best yields of merchantable corn when the stalks were 4 inches farther apart, in each case. In general, corn grown for the grain should not be planted closer than 3 feet, nor farther than 31/2 feet between the rows, and the stalks should be from 16 to 20 inches apart for medium varieties, surface planted. The highest weights of fodder were obtained when the stalks were but 4 inches apart in the row.

6. The heaviest weight of food material for ensilage, leaves and ears, was obtained when the rows were 31/2 feet apart and the stalks 4 inches apart in the row. Next to this, the best results were reached when the rows were 3 feet apart and the stalks from 12 to 16 inches, or rows 31/2 feet and the stalks 8 to 12 inches, with but little choice between them.

7. There was a decided gain in the yield of corn by pulling the tassels from every other row.

8. Land plaster, applied at the rate of 200 pounds per acre in the row, had no effect whatever on the yield of corn.

the rate of 200 pounds per acre in the row did not increase the yield of corn.

10. Soaking seed corn in solutions of creosote does not prevent smut, but it does injure the germination of the seed.

11. In a comparison of 140 varieties, the following 10 gave the best yields, in the order named: Mammoth White Dent, Hartman,s Early White, Silver's Mammoth Yellow, Mammoth Ivory Dent, North Star, Piasa Queen, Leaming, Pride of Kansas, Legal Tender, Large Golden Dent, the yields ranging from 80 to 91½ bushels per acre. Those found to be excellent ensilage varieties were Hiawasse Mammoth, Little Red Cob, Mosby's Prolific, and Parrish White.

The Bulletin will be mailed free to farmers of the State on application.

C. C. Towner is general agent for one of the largest publishing houses in Chicago, and can furnish all students desiring to canvass, with the best books in the market, at good commissions. Students desiring to canvass would do well to see him before contracting with any one else.—Advt.

COLLEGE ORGANIZATIONS.

STUDENT EDITORS.—Ora Wells, D. H. Otis, C. P. Hartley.

WEBSTER SOCIETY.—President, D. H. Otis; Vice President, W. H. Edelblute; Recording Secretary, S. I. Wilkin; Corresponding Secretary, M. O. Bacheller; Treasurer, G. W. Ginter; Critic, J. W. Hartley; Marshal, H. G. Pope. Meets Saturday evening and admits only gentlemen to membership.

HAMILTION SOCIETY—President, F. R. Smith; Vice-President, J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emerick; Treasurer, C. C. Towner; Critic, G. W. Wildin; Marshal, L. P. Holland.

ALPHA BETA SOCIETY.—President, G. L. Clothier; Vice-President, Birdie Secrest. Recording Secretary, Jessie Stearns; Corresponding Secretary, Kate Oldham; Treasurer, G. W., Fryhofer; Critic, May Secrest; Marshal, C.C. Smith. Meets Eriday afternoon. Admits ladies and gentlemen to membership.

IONIAN SOCIETY.—President, Ruth Stokes; Vice-President, Eusebia Mudge; Recording Secretary, Nora Newell; Corresponding Secretary, Hortensia Harman; Treasurer. Blanche Hayes; Marshal, Hannah Wetzig; Critic, Ora Wells. Meets Friday afternoon. Admits ladies only to membership.

SCIENTIFIC CLUB.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lottie J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

April 23rd.

At the usual hour the Hamilton Society was called to order by President Smith, At roll call a large number of members answered to their names notwithstanding the bad weather. Mr. Wickman led in devotion. The programme of the evening was opened by an essay by W. E Bryan. Debate, "Resolved that a man's life is influenced more by surroundings than his ability. The affirmative was represented by G. W. Wildin and O. A. Axtell; negative, by J D. Riddell and J. A. Schiel. The affirm ative claimed that the success of man in life depended upon his surroundings. It was the surroundings of Napoleon that made bim a great man, and not his ability. Washington was a great man, but he owed his greatness to the surroundings he was placed in. Many men had the ability that Washington had, but did not become known to the world because their surroundings were such that there was nothing to bring them before the people. It was Lincoln's surroundings that enabled him to become great. The negative argued that a man must have ability to succeed, and if he has not this ability he will never be successful whatever may be his surroundings. If Napoleon had no ability he would never have been the leader of the French nation. It was ability that made Washington what he was. That if a man has ability he will find some way to work himself upwards. By a vote of the Society it was decided that the negative had answered the affirmative arguments. Essay by L. P. Holland was well written. W. L. Graves read an essay on Forests. Declamation, W. E. Hardy. Select reading by Mr. Joss was much appreciated. An excellent edition of the Recorder was read by W. E. Smith. After report of the critic the society adjourned. V. E.

April 23rd.

In the absence of the President, Vice-President Edelblute called the society to order. After roll call the society was led in prayer by M. F. Hulett. Programme as follows: Debate, "Resolved, that this College should do away with commencement speakers." The affirmative was argued by D. H. Otis, who held that, owing to the present unsatisfactory system of choosing the speakers it would be better to abolish it, and that, by so doing they might make their class day one of pleasure and profit whereas now, the spirits of the class are at a low ebb. Negative was argued by W. P. Tucker. He rebutted the argument brought forth by Mr. Otis, while he did not indorse the present system, he thought there should be a better one instead of abolishing it all together. Were it aboli hed, it would have a bad in" fluence on the College. The affirmative was continued by Mr. Wetzig who seemed to think that it would be a good plan to abolish the speaking, then we would not have such a great crowd on Commencement day, and the students would enjoy themselves better than in the present system. Negative continued by Mr. Todd. Mr. Otis, in his closing speech, claimed if we abolish the present system it would be made up in Class-Day exercises. There would be no ill feeling between classes either. The negative was closed by W. P. Tucker. He said it would be useless to substitute a lecture for Commencement, and he did not think that putting all their energy on Class-day work would be a good plan, as so few can appear on these occasions. Question was decided in favor of the negative. Declamations by E. C. Trembly and A. D. Holmes. Essay, C. D. Young, "A Trip to the Nation." He gave to the Society a very good account of his trip to the Nation to buy cattle. He related some pleasing incidents, which were relished by the Society. Reporter, M. W. McCrea. The paper was one of interest, and no doubt James I.'s reform will take place at once. sion, G. K. Thompson. Discussion, M. F. Hulett; subject, "A Recent Coal find in Kansas." He gave the Society some facts 9. Castor-bean oil meal (pomace), applied at regarding the steps that were being taken at Alma for prospecting purposes. A shaft has been sunk to the depth of about six hundred feet and two small veins of coal found. The drill indicated a vein of coal of superior quality at a depth of about eighteen hundred feet below the surface, and it is probable that some company will sink the shaft and begin mining. News, H. G. Pope. Under the order of unfinished business, the committee on procuring speaker reported, and under the order of new business, the Society instructed their committee to try to procure Rev. McIntyre, of Chicago, if possible, or Joseph C. Cook, both of which are great orators. Report of Critic. Reading and adoption of the minutes. Adjournment. M. O. B.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The Twelfth Annual Meeting of the Kansas Social Science Club will occur at Fort Scott, May 5th and 6th.

The Y. M. C. A. Association at Leavenworth is making preparations to build a \$40,000 hall this summer. Among other modern improvements, it will contain a large room for gymnastic exercises, with the most complete apparatus found in any gymnasium in the country.

We are in receipt of No. 7 of the Seminary Notes, the bulletin of the Department of Historical and Political Science of the State University. The pamphlet contains a number of very interesting papers and articles, and ought to be read by every student of history and sociology.

There were eighty-six applicants for commonschool diplomas at the annual graduate examination of Riley county held April 16th, fifty-seven of whom passed and twenty-nine failed. This was the largest class ever examined in the county, and the per cent of the successful ones was above the average.

Prof. Wilkinson, of the State Normal School, the manager of the Kansas delegation to the National Educational Association at Saratoga, in July, reports that the outlook for a large attendance is very promising. The railroad fare has been reduced to the lowest possible figures, and every teacher who wishes to attend the Association or wishes to visit eastern places of interest ought to join the grand procession. For official arrangements, etc., address Prof. Wilkinson of Emporia, who will cheerfully answer any and all questions.

One of the things we have to be proud of in this State is that a Kansas man is writing a life of Shakespeare. This fact would no doubt cause a smile in some parts of the incredulous East, if the announcement were unaccompanied by the author's name, but when it is known that the man who has undertaken this task is Mr. D. W. Wilder, the scholar and student, the statement will command respect everywhere. The plan of the work is unique and original of course; no subject would be treated by Mr. Wilder in any other manner, and its appearance will be looked for with interest. Mr. Wilder has been studying for his subject of the "Life" for the last ten years, and hopes to complete his manuscript perhaps inside of the coming year. Having been a Shakespearean student all of his life, no man in the West is better fitted for such an ambitious work.—Topeka Capital.

The second annual meeting of the Northeast Kansas Teachers' Association will be held at Leavenworth, on May 5th, 6th and 7th. All the railroads which enter the city have made the rate one and one-third fare for the round trip for all points within 200 miles from Leavenworth in Kansas, and from Kansas City and St. Joseph in Missouri. Persons buying tickets will ask the agent for a receipt. This receipt will be countersigned by the Secretary of the Association, this entitling the holder to a return ticket. The principal hotels will give reduced rates. The programme is unusually rich, and contains names like the following: Supt. A. S. Olin of Kansas City, Kans; Supt. Glotfelter of Atchison; Supt. McNeill of Kansas City, Mo.; Prin. W. H. Johnson of Lawrence; Chancellor F. H. Snow of the State University; Pres. G. T. Fairchild of the State Agricultural College; Pres. A. R. Taylor of the State Normal School; and many others. The meeting promises to become one of the most profitable ever held in the State.

Bicycles to the value of \$10,000 are offered by Col. A. A. Pope, of the Pope Manufacturing Co. as prizes for the best essays by bovs or young men on Good Roads. The offer probably will have a perceptible effect upon the condition of our highways.

AN HOUR ON THE PIKE'S PEAK TRAIL. (Continued from page 138)

the top?" for the question is answered before it is asked. He carries in one hand a shawl-strap containing a rubber coat and an overcoat, and attached to the handle a lunch basket, and, perhaps, a tin cup. In the other hand perchance he carsies a huge bouquet of wild honeysuckle and purple columbine. As he passes, you gaze eagerly at the latter, but he trudges on looking as if he "longed for a lodge," he didn't much care where, and he disappears from sight as did the engine before him. You throw yourself upon the ground, and look up into the sky. You see a few fluffy summer clouds floating across, and, if you are wise, you will immediately jump up and start home. But little does it profit you if you are far from home; for one of those little summer clouds will call up others that give you such a drenching that you are glad to crawl in between two rocks and wait till the shower is over. Then, as the sun appears again, you likewise appear, walk on, and disappear as did the engine and the last worn traveler before you.

KINDRED INSTITUTIONS.

"Some Cotton Experiments at Newport" is the title of Bulletin No. 18 of the Arkansas Station, Fayettevllle.

Bulletin No. 83a of the North Carolina Station, Raleigh, gives the meterological summary for that State for January, 1892.

"Canaigre" is the title of Bulletin No. 5 of the Arizona Station, Tucson, and Bulletin No. 6 of the same Station, deals in "Soils and Waters."

Public Document No. 33 of Massachusetts is the Ninth Annual Report of the Board of Control of the State Experiment Station at Amherst.

The Sugar Experiment Station at Audubon Park, New Orleans, La., gives the field and laboratory results with sugar cane for 1891 in its bulletin No. 14.

"Common Fungus Diseases, and Modes of Treatment," "Fungicides, and their Preparation," "Spraying Apparatus" are subjects treated in Bulletin No. 111 of the Connecticut Station, New Haven.

"Further Notes on the Purification of Water by Metallic Iron," (the Anderson process) by Henry Jeffmann, M. D., and William Beam, M. D., is received from the authors at 715 Walnut St., Philadelphia, Pa.

The Annual Register of Purdue University, LaFayette, Ind., for 1891-2, is at hand, and shows, besides its splendid equipment, an enrollment of 622 students, from twenty different states and counties outside of Indiana.

"A Plain Talk about Insects," some injurious insects of 1891, the grain beetle, a sugar-beet beetle, tent caterpillars, the branch and twigburrower, are subjects reported upon in Bulletin No. 14 of the Oregon Station, Corvallis.

"Irrigation and Water Storage in the Arid Regions" is the title of a voluminous report issued by the Chief of the United States Weather Bureau under the authority of Congress dated May 23, 1890. To all interested in the subject matter this volume will prove of value.

The Fifth Annual Report of the Nebraska Experiment Station, Lincoln, seems to be in reality the Fourth Annual Report as but three Annual reports have been previously issued since the establishmeni of the station in 1887. It is accompanied in the same volume by bulletins Nos. 16 to 20 in-

Bulletin No. 40 of the Kentucky Station, Lexington, deals in "Some Common Pests of the Farm and Garden." Among the pests named are the Hessian-fly, grain-louse, horn-fly, housefly, ox bot-fly, army-worm, tobacco-worm, cutworm, wire-worm, current-worm, cabbage-worm, potato-beetle, pea-weavil, codling moth, curculio.

The Annual Report for 1891 of the Assistant Secretary of State and Commissioner of Statistics of Minnesota contains many interesting facts relating to the agriculture of that State, and has bound with it in the same volume the Annual Report of the State Agricultral Society and a

Forest Tree Manual for the same period prepared by the Minnesota State Forestry Association.

Bulletin No. 11 of the Oregon Station, Portland, gives notes on grasses and potatoes.

The U. S. Bureau, in its Circular of Information No. 6, gives a history of higher education in This report was prepared by Massachusetts. George Gary Brush, Ph. D., and gives a large array of most valuable facts concerning the following colleges and universities: Harvard, Williams, Andover Theological, Amherst, Tufts, Massachusetts Institute of Technology, Worcester Polytechnic, Boston University, Massachusetts Agricultural College, Boston College, Clark University, many of them being illustrated by photo-engravings. A special chapter on Higher Education for Women is followed by historical and descriptive articles on Mount Holyoke Seminary and College, Wellesley College, and Smith College. Photo-engravings give the reader an idea of the appearance of these great women's colleges.

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General information concerning the College and its work,—studies,

examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early n the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE MISSOURI BOTANICAL GARDEN. BY. PROF. A. S. HITCHCOCK.

XCLUDING parks and other pleasure E grounds, where plants are cultivated for ornamental purposes, this is the largest botanical garden in America. It is situated in the city of St. Louis, about three miles from the Mississippi River, and an equal distance from the western boundary. The total area occupied is about forty-five acres, of which nine and four-tenths acres are devoted to the garden proper, eight acres to fruticetum, twenty acres to arboretum, and the remainder to lawn and the grounds around the Director's residence. Besides this, there are about forty-five acres of adjoining land belonging to the estate which is available for the future extension of the garden.

The founder of the garden—best known as "Shaw's Garden"-was Henry Shaw. He was born in Sheffield, England, in 1800. At the age of nineteen he came to this country and settled at St. Louis, at that time a French trading post. During the next twenty years, by strict economy and natural business ability, he amassed a considerable fortune as a hardware merchant. At the age of forty he retired from business and devoted himself to travel in Europe. In 1851 he began the unfolding of plans matured while visiting various European gardens, which, during the ensuing years, resulted in a magnificent garden, private, to be sure, but freely shared with his fellow citizens. The late Dr. Engelmann, his friend and scientific advisor, purchased for him in Europe a fine herbarium and a fair botanical library. From this time till his death he devoted his strength and wealth to the development of what had now become his life work. In August, 1889, at the advanced age of eighty-nine years, he passed away, leaving no family, and few near relatives.

In 1859 the Missouri Legislature passed "An Act to enable Henry Shaw to convey or devise to Trustees certain lands." The lands referred to are in the city of St. Louis, and have since become very valuable.

His will, a carefully written article, provided for his relatives, a number of his friends, and several benevolent societies; but the bulk of his property, most of which was St. Louis real estate with an assessed valuation of \$1,366,334.00, was given in trust to seven persons who were afterwards organized into the Board of Trustees of the Missouri Botanical Garden. This Board is self perpetuating. Their duties are marked out by the will, and yet they are left free to use their own judgment, within certain limits, in the management of the estate. The will provides that there shall be a Director, appointed by the Board, who shall have control of the garden. The Director may have his duties prescribed by the Boards, but shall not be subject to interference while faithfully performing these duties. The management of the funds is in the hands of the Board; that of the garden, in the hands of the Director. The first and present director is Dr. William Trelease. No land can be sold, and only the income from the property can be used. The total receipts from Sept. 1, 1889, to Dec. 31, 1890, as shown by the first annual report, were \$120,841.93. The expense account shows that \$18,207 were spent for labor, excluding salaries; \$5,208 for herbarium; \$5,532 for library; \$8,420 for repairs. The total garden expenses are shown to be \$48,617.

The garden is open to the public free of charge, from 8 A. M. till sunset, except Sunday.

There is a fine collection of cactuses and agaves, in both of which Dr. Engelmann was interested. There is a small but valuable collection of Bible plants, and as good a collection of economic plants as is to be found in America.

The Herbarium includes a general herbarium founded upon the one purchased in Europe by Dr. Englemann, and the Engelmann herbarium, accumulated by that indefatigable botanist, and now kept separate to stand as a monument to his work. In all, there are about 200,000 sheets of mounted flowering plants.

The facilities for work in systematic botany are excellent, the library being, in this line, surpassed in this country only by Harvard and Columbia.

The Shaw School of Botany is intimately connected with, yet separate from the Botanical Garden. This was established in 1885 as a department of Washington University. As an endowment fund, Mr. Shaw deeded certain property to the University, the income of which should be used exclusively for the maintenance of the School of Botany; and should there be a failure on the part of the University to meet the requirements, the property reverts to the estate. The will further provides that, shall the income from the endowment fund at any time fall below \$3,-500, the deficit shall be made good out of the funds of the garden. Also, that the Professor in the School of Botany shall be either the Director of the garden or the person next in authority. In other ways the School of Botany is entirely separate from the garden, and is about three miles distant, being located near the main University building.

The facilities here are good for work in bactericlogy and cryptogamic botany.

Probably the most important work yet done by the garden for agriculture and horticulture was the establishing of six garden scholarships. These are open to young men between the ages of fourteen and twenty. The course of study, extending over six years, includes practical and theoretical work in all branches of horticulture and gardening. It is as follows: First year, practical work in the garden for ten hours each day during the summer and nine hours during the winter; second year, five hours' work and instruction in vegetable gardening, flower gardening, small-fruit culture, and orchard culture; third year, five hours' work and instruction in forestry, elementary botany, landscape gardening, and the rudiments of surveying and draining; fourth year, five hours' labor, and instruction in botany of weeds, garden vegetables, and fruits, and bookkeeping and forms of leases, deeds, etc.; fifth year, five hours' labor, and instruction in vegetable physiology, economic entomology, and fungi attacking cultivated plants; sixth year, five hours' labor, and instruction in the botany of garden and green-house plants, of ferns, and of trees in their winter condition, besides the theoretical part of special gardening connected with some branch of work that they are charged with in the garden.

The scholarships yield \$200 the first year, \$250 the second, and \$300 for the next four years. In addition to this, the students are allowed furnished rooms on the grounds. In connection with these rooms is a reading room, where a number of horticultural and agricultural periodicals are kept on file. The students also have the use of the library, where all the botanical and horticultural periodicals of merit, and several agricultural papers are taken. Altogether it is a rare opportunity for a young man who wishes to make horticulture or gardening his profession. Two of the scholarships are reserved for candidates named by the State Horticultural Society of Missouri and the Florists' Club of St. Louis. The others

are chosen by competitive examinations covering the elementary subjects, or, where necessary to choose between several who show proficie ncy in these, by examination in higher branches.

The Missouri Botanical Garden, with an endowment greater than any similar institution in America, and exceeded by few in Europe, established on plans broad enough to comprehend the whole field of botanical and horticultural investigation, will have turned upon it during its future career the eyes of the whole botanical world. But the results will fall far short of the mark if botany alone is benefited. Agriculture and horticulture cannot help but feel the influence of so potent an agency. Much will be expected; we cannot but predict that much will be given.

NOTES ON READING CIRCLES.

BY PROF. J. W. RAIN.

ANY reading circles sustain themselves easily, and furnish much instruction and recreation. There are some others that seem more or less dyspeptic, and lack vitality. There is a good deal of engineering to do, so some—the burden-bearers—will feel tired and worried. Instead of carrying everybody along in high spirits by the mere impetus of its own healthy effervescence, the programme may drag just a little, and caused a sigh of relief that it went off as well as it did. While this class of circles no doubt pay for their existence, they might be made more efficient and less laborious.

The end and aim of a reading circle is instructive social recreation. If any of these three elements is lacking, there will be at least a partial failure. The programme must not be weighty and burdensome to those who prepare it, nor to those that listen, else recreation—the most important of the three—will be impossible. This does not mean that there is to be no work done; without careful, studious preparation, the results are worthless.

How can we combine scholarly work and recreation? I. By assigning to each member something definite. When one is told to prepare "A Paper on Shakespeare," his mind is almost a blank, and his ideas very vague and misty. He will probably tell us that the author was born in 1564; that he lived at Stratford-on-Avon; that his father was a butcher, a glove-maker, or a grazier; that his wife was some years his senior; and that he died on his fifty-second birthday. None of which gives us any idea of his writings.

- 2. The member should give his own thoughts and ideas instead of those gleaned from encyclopedias and biographies; he should form some opinions and conclusions from the book itself, and tell us everything he notices, no matter how trivial or un-literary it may seem.
- 3. Do not have a formal discussion after the paper, by Mr. Somebody and Miss So-and-so. The whole assembly must be taught to take part, and this they will not do if scape-goats are appointed to "discuss the paper." At first, the chairman may ask one or two, betorehand, to make special preparation for discussion, but with willing workers this will soon be unnecessary.
- 4. A change from time to time in the system of working will be refreshing and give renewed vigor. To take all the works of one author together is a favorite way, being an easy and obvious arrangement. Taking a larger but not less simple scope, some period of mankind's history might be studied, thus throwing a reflected light on its own literature; as, Colonial life in America, the Vikings of Scandinavia, or the Monarchy in England. For the last, a sample list of books is appended, chosen from those most generally accessible:—

The Betrothed, and Ivanhoe (Scott); Scottish Chiefs (Porter); Last of the Barons (BulwerLytton); Marmion (Scott); Schoenberg-Cotta Family; Prince and Pauper (Mark Twain); Kenilworth, Fortunes of Nigel, Peveril of the Peak, and Old Mortality (Scott); Tale of two Cities (Dickens); and Harry Lorrequer (Lever).

A series of topics could be arranged to comprise some of our best dialect literature, such as the Tennessee mountaineer, the Creole, and the New Englander.

The social element must not be forgotten. Make the whole meeting thoroughly informal and conversational. Helping greatly towards this end, another class of topics might be introduced occasionally,—travels. The people, the customs, the atmosphere, of foreign lands forms a rich as well as pleasing field of our literature.

A NEW STUDY FOR THE COMMON SCHOOL COURSE.

BY E. ADA LITTLE, '86.

O often we hear the wails of young housekeep-Ders in despair over their failures in cookery—of the mistakes, laughable or otherwise, which inexperience occasions; but it is more rare to hear of the failures in that branch of housekeeping which is co-ordinate with cooking; one which causes full as many tears, as much worry, and as much absolute despair - the making of garments which shall be pleasing to the maker, the wearer, and the public. Many a woman, who, by a few weeks' or, at most, a few months' trial, has become an adept in her kitchen, enters the sewing-room with a heavy heart, and while years of experience and practice make the work less of a bug-bear, still to those who have not the natural aptiude for the work, the sewing-room will be the one room in the house which it is not a pleasure to visit.

The girl or women who has either an intuitive knowledge of sewing, or who has had the benefit of a course of training, and can pass through the semi-annual sewing season without making it as great a source of discomfort as house-cleaning time, is a blessing to all around her.

The art of cutting garments economically, and of putting them together in the neatest and handiest way, is one which must be learned. The woodworker plans the length and breadth of his boards so that when sawed up he shall have as little waste lumber as possible. The case with the needle-woman is precisely similar. The remorse experienced on finding that, by a different arrangement of the pattern, that extra purchase of material would have been saved, is, to say the least, annoying in the extreme. Where even a little training by some one of experience proves so beneficial, it seems a shame that all girls should not have that little help in one of the most arduous of household duties. The practice of a few rules and principles which would make more of a system of what is so often hap-hazard guess work, and would lighten the labor one-half.

In most of the countries of Europe, sewing is taught in the schools. It is as much a part of the day's school work as reading, arithmetic, or writing. This has been the case for a great many years. We Americans are just beginning to wake up to the fact that, perhaps, it might be well to make a trial, and see how the plan would work here. It will certainly be a blessing to girls in more ways than one. The great argument for introducing it into school work is, that it trains the hand, the eye, the judgment, and other faculties of the mind and body. This is so true that no one realizes the immense extent of this training unless the opportunity comes of seeing and knowing the results of the work. This is apparent not only in the one branch, sewing, but in everything else, showing a gain of quick perception and application. But besides this general good is the great immediate help to girls. It is a knowledge which requires almost daily application by the girl, and so is not forgotten as many studies must

be when they drop out of the line of special work.

Sewing classes in connection with regular school work can and will be successful as proved by trial. Among the trials counted successful is the manual training department if the Public School of Menomonie, Wis., donated by a gentleman of that city to the schools. Temporary buildings were erected until the plan should be tested, but now a fine building with perfect equipment in every way is to be ready by the opening of the term next Fall. It would not be too much to ask that every school should have a similar maual training department; and the day that sewing is established as a regular branch in the course of study will be a bright one for the girls of the country.

THE SCIENTIFIC CLUB.

APRIL 29TH.

The Scientific Club was called to order by President Mason. After the minutes of the previous meeting were read and approved, the subject of the Westinghouse Brake was presented by Professor Hood and Mr. Wildin. Extracts from the papers follow:—

In the times when we had wooden rails faced with iron, the brake system was the engineer's own individual effort; but, as the locomotive of the time weighed only about four tons, and ran at a speed of only four miles an hour, the task was not a difficult one.

It is stated that on the Newcastle and Frenchtown Railroad, the braking of a train when nearing a station was done at the signal of the engineer, by raising the safety valve on his locomotive. At this instant the old colored servants would rush to the train, seize hold and pull back, while the agent would stick a piece of wood from wheel to wheel under the boiler, between the spokes of the wheels.

Later, some twenty years ago, when locomotives and cars began to assume their modern form and size, it was necessary to have a more efficient brake than the simple hand brake. Again mechanical ingenuity was taxed, and the result was the "Westinghouse Non-Automatic Air Brake," which was one of the great inventions of the '70's.

Some five or six years ago, it was found that from the increase of weight of locomotives and cars, and from the exceedingly high speed at which trains were run, because of the solid smooth road bed furnished with increased heft of steel rails, and the increase of exchange in the country, these "non-automatic brakes" would not furnish the desired power in cases of emergency. They were likely to get out of working order, and such a brake would not furnish the required degree of safety of braking force necessary in order to run the modern passenger train at its modern speed.

Upon the recognition of the weakness of his former brake, Mr. Westinghouse brought forth in its present form the brake known as the "Westinghouse Triple Valve Automatic Air Brake," which comes as near fulfilling the requirements of a complete brake as it is reasonable to expect at present. In fact, it fulfills completely all the conditions of a good brake and performs satisfactorily the work required of it.

The subject of brakes has caused considerable discussion among railroad men of England and America. Their conclusions as to the features a good brake should possess are summarized as follows:—

1. It must be capable of application to every wheel throughout the train, if so desired.

2. It must be so prompt in its action that no appreciable loss of time occurs between the time of its application and the moment its full power can be exerted throughout the train.

3. It must be capable of being applied by the driver at the engine, and at any desired point throughout the train.

4. It must be capable of application by driver and guard acting in concert, or by either acting independently of the other.

5. It must under all circumstances be capable of arresting the motion of a train in the shortest possible distance.

6. It must be so arranged that in the event of the failure of any of its vital parts, such failure must record itself by the application of the brakes or otherwise; so that the train, if in motion, may

1891-92. Fall Term-September 10th to December 18th Winter Term-] anuary 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 - 93.

Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Prof. Brown goes home for a brief visit this week.

Rev. Bauserman, of Lansing, was a pleasant caller on Monday.

Mrs. O. McConnell, of Topeka, is visiting her daughter, Mrs. Graham, for a few days.

Pres. Fairchild attended a meeting of the State Board of Education in Topeka, Wednesday after-

Regent Wheeler visited the College Wednesday morning on business connected with the monthly pay-rolls.

The total receipts from collections for Educational Exhibit at the Columbian Exposition to date is \$1,929.

Prof. Walters delivered the commencement address at Randolph, last evening, before the schools of the northern part of Riley County.

Mr. and Mrs. Breese enjoyed a visit this week from the former's mother, who returned on Thursday to her home in Cottonwood Falls.

Rev. De Wolf, of Kansas City, Kansas, visited the College on Monday in the company of Rev. Mr. Riley, of Manhattan, and led the chapel exer-

The pipe ditches, which have for a year past marred the lawns, are being sodded, and with favorable weather the campus will soon be restored to all its former beauty.

Mr. A. A. Graham, of Ulysses, Neb., a brother of Secy. Graham, stopped over between trains on Monday last on their return from the funeral of their father at Dighton.

President Fairchild spent Tuesday night in Leavenworth, where he delivered a brief address before the Northeast Teachers' Association, upon "Industrial Training in Education."

Mrs. Carpenter, of Orion, Mich., mother of Mrs. Mayo, made a brief call upon her daughter this week, expecting to give an extended visit on her return from Colorado. She will spend some weeks in the family of Prof. L. G. Carpenter, of of Colorado Agricultural College.

A division of the Third-year Class presented orations in Chapel yesterday afternoon as follows: A. F. Niemoller, "Stock Speculation;" L. C. Olmstead, "Our National Defences;" R. E. McDowell, "Examinations;" C. F. Pfuetze, "Tammany and Quay;" J. D. Riddell, "A View of Our Pension System;" J. M. Stearns, "Spring;" J. A. Rokes, "How to Americanize the Foreigner;" H. L. Pellet, "A Description of New Orleans."

Mrs. Hanback and Mrs. Mitchell, Lady Commissioners for the Columbian Exposition, hold a conference with the women of Manhattan in the parlor of the Commercial Hotel next Monday, May 9th, at 3 P.M., to organize a Womens' Columbian Club. They give a special invitation to women who may like to help in the results of their own industry. We hope that these ladies may call at the College with a word for our students, and for a look at our industrial departments.

Regent Wheeler, of Nortonville, Jefferson County, took possession of books, papers, and funds of the office of Treasurer of the College on Tuesday afternoon, being duly installed by settlement with Ex-Regent Hessin, former Treasurer, with assistance of the Secretary and Assistant Secretary of the Board. His bond of fifty thousand dollars had been previously approved by a special Committee of the Board, and filed with the Secretary. Regent Wheeler has made arrangements to have the business of the Treasurer's office done in the First National Bank, Mr. Geo. S. Murphy

having been made Deputy Treasurer; but he will himself be in Manhattan early in each month to attend to any special matters that may require his personal supervision.

GRADUATES AND STUDENTS.

Clara Short, Second-year in 1890-91, is visiting her sister Lottie, Post-graduate.

C. R. West, First-year, drops out to help his father move from Columbus to Kansas City, Kansas.

J. N. Bridgman, '90, has returned from his mother's funeral, and resumes his post-graduate studies.

Alice Shultice, Second-year in 1886-7, visited friends at the College this week on the way east from her home in Verdi, Ottawa County.

H. S. Willard and C. W. Thompson, '89, and C. A. Campbell, '91, were ushers at the Cobb-Hunter wedding Wednesday evening.

J. C. Wilkin, Second-year in 1890-91, made a short call on Thursday, on his return to Phillips County with a team of horses purchased near Wamego.

C. W. Thompson, '89, visited his alma mater on Thursday in company with his classmate, Dr. H. S. Willard. Mr. Thompson is practicing dentistry at Holton with Dr. A. W. Davis.

F. A. Waugh, '91, writes from Helena, Montana, of pleasant surroundings in his new work as editor in chief of the Farming and Stock Journal, one of the "Big 4" of the Journal Publishing Company, of which Russell B. Harrison is President.

The first number of the Chandler (Okalhoma) News, under the managment of H. B. Gilstrap and G. V. Johnson, '91, is received. It is a handsome six-column quarto, well filled with home news and editorials, and its advertising columns give evidence of being duly appreciated by the business men of Chandler.

Samuel S. Cobb, '89, and Carrie K. Hunter, Second-year in 1887-8, were married Wednesday evening, May 3rd, at the Presbyterian Church, Dr. Milner officiating. A reception followed at the residence of the bride's uncle, Mr. W. P. Higinbotham. After visiting St. Joseph and St. Louis, the young couple will be at home after May 25th, at Wagoner, I. T., where Mr. Cobb is engaged in the drug business.

Ellen Bayles, student in 1884-5, and Louisa M. Cowell, Second-year in 1885-6, met with a serious accident on Saturday. We quote from the Mercury: "While Miss Ellen Bayles, living two miles north of the city, and Miss Lou Cowell, of London, England, were going to Garrison, last Saturday, the horse frightened near the railroad crossing and ran. The buggy struck the sign post, knocking it down, overturning the buggy and throwing the girls out. In the fall, the sign post struck Miss Cowell, breaking both thighs. Miss Bayles suffered a broken leg-the left one below the knee-besides a severe cut on the head. The ladies were taken to the residence of Wm. Bayles at Garrison. Miss Lou retained consciousness, but Miss Ellen was delirious all the next day, going over the fatal accident just as it had happened the day before. Dr. Lyman was telegraphed for and set the broken limbs, and reports that they are doing as well as could be expected."

THE WEATHER FOR APRIL.

BY PROF. E. R. NICHOLS.

April, 1892, was unusually windy and cloudy. The spring has been quite backward, due principally to a lack of sunshine.

Temperature.—The mean temperature for the month was 51.69°, which is 1.5° below normal. There have been twenty-two warmer, and eleven colder, Aprils; the extremes being 59.43°, in 1863, and 46.76, in 1874. The highest temperature was 85°, on the 19th; the lowest, 26°, on the 9th,—a monthly average of 59°. The warmest day was the 30th, the mean being 72.5°; the coldest, the 8th, the mean being 38.75°. The greatest range for one day was 43°, on the 6th; the least, 1°, on the 19th. The mean of the observations at 7 A. M. was 45.73°; at 2 P. M., 60.3°; at 9 P. M., 50.37°. The mean of the maximum thermometer was 63.07°; of the minimum, 42.5°;

the mean of these two being 52.79°. The mean temperature for the first decade was 49.28°; for the second, 49.63°; for the third, 56.18°. There were frosts on the mornings of the 6th, 9th, 15th, 23rd, and 29th.

Barometer.—The mean barometer was 28.786, which is .08 inch above the mean for twenty-one years. The highest was 29.267 inches, at P. M. on the 8th; the lowest, 27.946 inches, at 7 A. M. on the 4th, - a monthly range of 1.321 inches.

Rain-fall.—The total rain-fall for the month was 2.906, which is .15 inch above normal. Rain fell in measurable quantities on March 31st-April 1st, 3rd, 4th, 8th, 10-11th, 12-13th, 16-20th,

23rd, 24th, and 27th.

Cloudiness.—There were seven days entirely cloudy; eight, 2/3 cloudy; two, 1/2 cloudy; four, 1/3 cloudy; six, 1/6 cloudy; and three, cloudless. The per cent of cloudiness for the month was fifty-two; for the first decade, thirty-five; for the second decade, sixty-seven; and for the third, fifty-five. The normal per cent of cloudiness for April is thirty-five.

Wind.—The wind was from the southeast twenty times, southwest fourteen times, northeast thirteen times, northwest thirteen times, south eleven times, north eight times, east six times, west four times, and a calm once. The total run of wind for the month was 11,196 miles, giving a mean daily velocity of 373.2 miles, and a mean hourly velocity of 15.52 miles. The highest daily velocity was 963 miles, on the 1st; the lowest, 134 miles, on the 7th. The highest hourly velocity was 49 miles, between 5 and 6 A. M. on the 1st. Other high velocities were 48 miles, between 12 M. and I P. M. on the 13th; 44 miles, between 9 and 10 A. M. on the 19th; 43 miles, between I and 2 P. M. on the 30th.

Casual Phenomena.—There were three hail storms during the month, the one on the 3rd, between 1:15 and 1:20 P. M. doing considerable damage to young trees and shrubs, and breaking from one-third to one-half of all exposed glass on the south and west sides of buildings. The hailstones were about four inches in circumference, and weighed four ounces. The other two occurred on the 13th and 19th, doing little damage, not being accompanied by high winds.

Below will be found a comparison with the pre-

ceding Aprils:-

April.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	2 6 7 7 12 5 5 7 6 3	4.64 2.54 0.12 2.00 3.63 3.12 1.68 2.93 2.44 1.96 2.20 3.00 2.06 1.60 7.52 4.08 2.32 1.08 1.50 3.21 1.08 1.52 3.21 1.58 1.58 1.58 1.58 1.58 1.58 1.58 1.5	NW NW S NW NN SE SW NW NW SW NW SW NW SW NE NW SW NE NW SW NE SW	51.66 49.43 57.91 54.18 49.68 59.43 47.52 51.06 49.73 48.25 48.10 52.63 57.07 56.42 47.31 46.76 48.45 53.08 57.77 55.73 56.79 52.09 52.09 52.63 57.67 56.14 55.58 49.47 53.58 54.51 55.25 56.25	82 84 84 85 80 89 82 86 93 85 81 88 98 93 92 93	30 22 30 31 39 27 23 31 27 22 30 23 24 19 26 20 27 18 30 27 18 30 27 28 30 21 27 28 29 20 20 21 21 21 21 21 21 21 21 21 21	28,72 28,74 28,75 28,65 28,50 28,53 28,53 28,53 28,53 28,59 28,50 28,52 28,91 29,04 28,91 29,04 28,91 28,91	29.10 29.00 29.14 29.04 29.16 29.10 28.95 28.90 28.90 28.90 28.90 28.90 28.90 29.02 28.91 28.85 29.26 29.29 29.32 29.29 29.32 29.32	
1891 1892	6 10	1.86 2.91	SE NW	56 24 51.69 53.19	85	21 26 26	28.79	29.27	27.9
Means	6	2.76	1000	RECO					
		Tou		Me	Maxi	10000	Marin	Mean	Maxin

258.3 373.2 11196 712.26 8553 295. 2 The same food that makes a pound of dressed beef would make a pound of butter. The farmer gets about five cents a pound for his dressed beef, while butter is worth twenty-five cents. -Our

Grange Homes.

THE SCIENTIFIC CLUB. Continued from page 142

be automatically arrested, and the existence of a defect be thereby made known.

7. It must, in the event of a train breaking into wo or more parts, be capable of immediate automatic application to each vehicle, under all conditions.

8. It must be simple in its construction and in its mode of working, and not be more liable to derangement in any of its parts than any other portion of the mechanism on the train.

9. The duties it is called upon to perform must be done by the apparatus itself, and not by the addition of any auxiliary contrivance called into aid an appliance which cannot of itself fulfill the necessary conditions.

o. It should preferably be inexpensive for first establishment, and necessarily cheap in maintenance, for if the latter condition be not fulfilled, constant watching and frequent renewals would be required, and the eighth requirement named above would not be complied with.

A leading feature of the Westinghouse automatic brake is an arrangement by which the force employed must always be in good condition to prevent the application of the brakes.

They become operative in retarding or preventing advance movements the instant they are seriously out of order, or whenever any important exceptional influence effects the train movement, and they can also be applied by the conductor, brakeman, or any other employe, in any of the cars, or by the locomotive engineer, The brakes, in fact, are only kept off the wheels by forcible pressure of compressed air, and any sudden reduction of pressure in the train pipe, whether it is produced by defect, accident, conductor, brakeman, or engineer, applies the brakes.

A few calculations will give a general idea of the work done and the energy expended by these

brakes in stopping a train:-A train running at the rate of 40 miles an hour, and weighing 2,000,000 pounds, was stopped in 19 seconds. This is equivalent to an expenditure of 106,392,000 foot-pounds of energy, or over 10,000 horse-power for 19 seconds. If the energy expended in stopping this train were used to heat water, it would be sufficient to raise about 1,000 gallons of water from a temperature of 45° to 212°, or to that of boiling, in 19 seconds of time. Or, if we consider this in another way, the force overcome by the brakes is equivalent to the force it would take to stop in 19 seconds 68 nine-inch cannon balls traveling at a rate of 1,000 feet per second. Again, if this energy were used in friction in one place or on one truck, it would be sufficient to melt 555 pounds of cast iron.

The exact mechanism of the brake was then shown by drawings projected from a lantern. The general arrangement of parts on the train was shown; then the individual parts were shown, and their action followed step by step. First came the steam pump, with its attached air pump, then the reservoir for storing compressed air. The automatic triple valve connected with an auxilary reservoir and brake cylinder, which contains the most important part of the invention, together with the complicated valve of the engine, was shown.

The Westinghouse Company has presented to the Mechanical Department models of the more complicated parts, but they were not received in time to be of benefit to the Club. L. M.

KANSAS EDUCATIONAL NOTES

BY PROF. J. D. WALTERS.

Rev. Dr. E. L. Thorpe, of the First M. E. Church of Hartford, Conn., will deliver the annual sermon at Baker University Commencement.

The Ottawa Chautauqua Assembly of this year will be held June 12st to July 1st, inclusive. For information concerning arrangements and programme, address W. H. Keith, Secretary, Ottawa, Kansas.

The July meeting at Saratoga, N. Y., of the National Educational Association will probably be attended by over five hundred teachers from Kansas. There are at least two reasons why the attendance will be greater than that at Toronto, Canada, last year, which numbered about three hundred. There will be many who will take this

opportunity to visit their old homes and relatives in the east, and many who wish to see the progress of the World's Exhibition in Chicago, through which city the official route from Kansas will pass. For particulars write to the State Manager, Prof. Wilkinson, at Emporia.

The *Informer* of Holton University says: We have not much sympathy for any kind of physical culture that tends to increase a man's fighting proclivities. Let all such exercises be disbandoned and the desire for them starved out of the nature and no loss will be sustained as a consequence.

McPherson College has started a brick fund for a new building. One cent represents a brick, and every loyal citizen of Kansas, every member of the Church, every citizen of McPherson county, everbody is invited and expected to pay for one or more. The fund amounts to something over \$1000 at present.

Supt. E. E. Olson, of Riley County, furnishes us with dates of the graduating exercises of the ungraded schools of this county. The exercises of Randolph and vicinity will be held on May 6th; those of Keets, May 31st; Pleasant Hill, May 23rd; Leonardville, May 23rd; Ogden, May 27th; Zeandale, May 31st; Riley, June 3rd.

Any public library in Kansas that desires a copy of Governor Robinson's "Kansas Conflict," for use in its reading room, can secure one without cost by addressing the Governor at Lawrence, stating the name of the library, and giving the authority of the one sending the request. This is a most liberal offer, and every public library in the State should avail itself of the opportunity.

—Lawrence Journal.

Prof. L. I. Blake of the Kansas State University, who delivered a series of interesting lectures in the University Extension course in Kansas City, has been appointed a member of the electricians' congress at the World's Fair. It is composed of forty of the most eminent electricians of the world, and it is high recognition of Prof. Blake's ability that he should be one of the number. He has also received letter from the University of California offering him a chair in that institution at \$1,000 higher salary than he has been getting. The Regents of the Kansas University have raised his salary \$500, and hope to keep him.—Kansas City Star.

COLLEGE ORGANIZATIONS

April 20th.

President Smith called the Hamiltons to order at the usual hour. Roll-call. Mr. Rich led in prayer. The minutes of the previous meeting were read and adopted. A declamation by Mr. Snyder was well delivered. Declamation, G. H. Dial. A. P. Carnahan, in his discussion on "Our Navy," brought forth many interesting facts. Debate, "Revolved, That the great school book combination is a disadvantage to our schools." Argued on the affirmative by W. J. Yeoman and J. A. Rhoades; on the negative, by C. N. Holsinger and Mr. Johnson. Mr. Yeo man argued that there would be no advantage for the district or county to purchase the books used, as they would cost just as much as they do now; that the books bought in this way would likely be of inferior quality. Mr. Holsinger claimed that the books would be bought by contract, and that the price of the books would be lessened; that there would be a uniformity of text-books. Mr. Rhoades on the affirmative argued that combinations tend to raise prices; if a certain book company had the sole right to sell school books in a certain State it could set its own prices, and the people would have to pay them. The discussion was continued by Mr. Johnson, who claimed that if the State contracted for the books, they could be furnished to the student at nearly cost, and that a person moving from one district to another would not be required to buy new books. The judges, Messrs. Bergland, Joss, and Axtell, decided two to one in favor of the negative. A short time was devoted to extemporaneous speaking on the subject, "Should industrials in the carpenter shop, iron shop, and printing office be abolished, and no regard to sex be shown in the other industrials?" After some time spent in Society business, the meeting adjourned.

April 30th.

The Webster Society was called to order by President Otis.

Prayer by M. F. Hulett. M. F. Hulett was elected Recording Secretary vice S. I. Wilkin, resigned.

Debate, "Resolved, that the girls of the present generation will not make as good wives as those of the past." Affirmative was opened by L. S. Harner.

Mr. Harner was just the one for this question, as he is a very observing young man. He thought in order to do the question justice, one should speak from experience, which he informed the Society he could not do. He said that from the increasing number of old bachelors, marriage is not a success as compared with what it used to be in the good old time of our greatgrand-parents. He seemed to think the tendency was toward frivolity and neglect of home duties. Mr. Harner seemed earn. est and sincere in his views. Mr. J. Frost debated the negative. Mr. Frost was very much interested in the discussion, and ably defended the girls of the present.

defended the girls of the present.

Mr. Frest proved by statistics that Mr. Harner's argument was

not correct, and that old maids are not increasing every day. Mr. Frost thought it an outrage that the girls of the nineteenth century were not as capable of fulfilling the duties of a wife as those of fifty or one hundred years ago. Affirmative was argued by E. W. Reed, who cited the Society to examples which proved that the wife of fifty years ago was more liberal and generous than the wife of today. Mr. Reed doesn't doubt that some day he can speak with greater certainty than at present. Negative was continued by Mr. Rader. He did not lack words to express his thoughts in favor of the girl of the present generation. Affirmative was closed by Mr. Harner. He seemed to think the girl of today was getting too artificial and of too lofty aims; why, he said, they are aiming at the ballot box-Mr. Frost in his closing arguments said that a woman of today did not have to go out and do all the chores in order to compete with her ancestors; furthermore, a man in olden times had several wives, while at the present time one is his ideal. The Society decided in favor of the affirmative. Order of compositions and reading .- C.R. Kistler tavored the Society with a very good recitation, which showed good taste and patriotism. Declamation, Mr. Coleman. After having ten minutes recess, Messrs. Peck and Rhodes favored the Society with instrumental music. The Society likes just such feasts. Mr. Edelblute gave a discussion on inocculation. Essay by E. A. Clark, subject, "Different Physical Stature of Men." Discussion, Mr. Patten. He to'd the Society of some of the damages done by the Chinch-bug.

M. O. B.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

B. A. WHARTON'S is the most popular Dry Goods Store in Munhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silverware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A J.WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5.00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

Schultz Bros. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CA. H STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

O. HUNTRESS, Dry Goods, Groceries, Queensware. Free delivery. Prices always as low as good business methods will warrant. The trade of Professors, Students, and all connected with the College especially solicited.

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The Industrialist may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

SCIENCE AND WORK.

BY PROF. J. T. WILLARD.

THE unparalelled strides civilization has made during this century have furnished themes for many writers. Future generations will have no lack of assurance that we of the present were fully aware of our great superiority to our ancestors. The popular press teems with comparisons, nearly always to the disadvantage of the old times. The best of it is, that these deductions are true. The conditions which satisfied the mass of mankind in our country fifty years ago would be deemed intolerable now. People generally are better clothed, better fed, and live under better sanitary conditions now than at any other time. The luxuries of our grandfathers have become our necessities. The discontent which is manifested to a greater or less extent in many places is not based upon a lack of general prosperity, but upon the claim that the fruits of our modern civilization are not equitably distributed.

This prosperity is the direct offspring of modern science. Cheapness of transportation, the substitution of mechanical for hand labor, the use of steel instead of iron or wood in so many capacities, the utilization of the inanimate forces of nature to replace human power, and many other essentials of today are based upon the application of the dry facts of science to the production of

While science has done much to ameliorate the condition of man, it is not to be expected that it will materially reduce the hours of labor per day. Bellamy's picture of a time when men will work but four or five hours per day is only a dream. The time will never come when additional labor will not bring increased reward in pleasure or power after the bare physical necessities are met. The demand of laborers for even an eight-hour day would be preposterous had not machinery and scientific methods so greatly reduced the demand for labor. As it is, comparitively few are ready to maintain that eight hours of labor per day contributed by each citizen would supply all with such food, clothing, and manufactured articles as we now expect to enjoy. Even if eight would suffice to provide food and coarse clothing, man is so constituted that he will work more if his labor is to be rewarded by more pleasant surroundings in any way.

Leaving out of consideration the lazy and worthless, the advocates of the eight-hour day do not contemplate a life of idleness during the other hours of the day, but urge the need of opportunity for work at home, and for mental development.

Eight hours of labor per day, all told, is most uncommon now with any class of people. Farmers, who make up the great majority of the nation, work twelve to fifteen hours. Merchants and tradesmen, an equal number. Busy professional men, it is safe to say, have scarcely more leisure time. Teachers are thought by many who haven't tried it to have an easy time. As a matter of fact, a real teacher is a very busy person. This is especially true of teachers of the sciences. While science has done so much to lighten the labors of mankind, as a whole, the irony of fate entails a life of ceaseless study upon a man of science. Unless one is content to barely hold to the knowledge of his school days, he must keep close to the current literature of his science. Science is nothing if not progressive, and the man who keeps up with its development in a single branch must grapple with a constant stream of quarterly, monthly, and weekly journals, as well as many new books.

This constant vigilance is the price of progress, and the only guard against stagnation or retrogres-

sion. It is as much part of his work as teaching or laboratory work, and often becomes more irksome. Yet few but those upon whom this duty falls have thought of this as work. Most would say that the scientist has a great deal of time for "reading," not realizing that this reading is often done while resisting the temptation to active exercise in the fields or to social pleasures in his family or with friends.

BEAUTIFYING THE PUBLIC ROADS.

BY C. A. KIMBALL, '93.

LONG with the present agitation for good roads, the subject of beautifying the roads should be included.

The first essential of the ideal road is, of course, a good road-bed, good in all sorts and conditions of weather. Then there should be a well-kept fence, a neatly trimmed hedge-row, or a stone wall preferred; the edge of the road should be green with grass instead of being submerged in a forest of weeds. Perhaps we would go farther and plant trees, useful as well as ornamental, along the road for shade, and to serve as a wind-break.

The advantage of thus beautifying the roads can hardly be overestimated. What would be your opinion of a community whose roads were thus improved? Would you not think it a community in which you would like to live? Would this not so improve a farm in value that you would be willing to give a good round sum more for such a farm than for one in a community whose fences were barb-wire, tumble-down stone walls, hedges untrimmed, or if sometimes cut with the brush piled on the road-side; where weeds grow so rank and tall as to make it impossible to look over them to see if the fields contain any grain? Somehow the impression you get from the road-side greatly influences your opinion of the whole community, and rightly, too.

Now we don't expect to make our country roads as nice as the roads of a park, but each farmer can easily do something to add to the appearance of his road-side. First, cut the weeds. Never mind if your neighbor doesn't; cut yours, and ten to one he will cut his next year. This will lead you to see that your fence is in good shape; and as people can now see your field, you will make an extra exertion to see that it is free from weeds. Once free from weeds, we have noticed in this part of Sunny Kansas, that the road-sides are soon grown up to tame grasses. Of course expense comes in, but see if it doesn't gladden your heart enough to pay all the expense.

Trying to improve your own road-side a little each year, you will find that road-sides of the whole neighborhood will improve; for your neighbors won't allow you to get ahead of them. All will find themselves well paid for the labor, both in satisfaction derived from the beauty, and from actual cash value added to the farms.

CROWDING THE COURSE.

BY CHASE COLE, '95.

NE is sometimes led to believe that some students think that the greater part of life's work is over when they g raduate, instead of only begun. If, for reasons which seem sufficient, one enters "irregular," he frequently hears, "You will make up those other studies as extras, and 'go through' in three years, won't you?"

What does this mean? It means just this: You are to do all that those who have passed the same studies, and know what they are, think should be done in a year's work, and in addition, pile on these "extras."

Why carry these extra studies? You cannot

find a student who will say that each year of the course is not filled with its own work, and that the student who does that work well has no time for extras, unless we except those studies in the fourth year, known as electives, when the wouldbe graduate may elect to study that "science which treats of the natural and political divisions of the earth." What is to be gained by thus crowding your year's work? The gain is obvious: the date on your diploma will be one year earlier than it would otherwise have been, and the possibilities are that the date on on your tombstone will also be.

Of course the world is anxiously waiting for us to come to the rescue, and can ill afford to do so, but a kind Providence has managed to "get along" without much help from us thus far, and possibly can manage for one more year.

On the other hand, has anything been lost? Are you fully repaid for the supplementary reading you might have done carrying the regular course? for the broken health of which we hear so frequently? or shall we account these as losses which must be placed against the practice of crowding the regular course?

THE ECONOMY OF TIME.

BY GRACE M. CLARK, '92.

EVERYBODY has all the time there is. But there seems to be the same inequality in the distribution of time that there is in the distribution of wealth. There are the monopolists, who have too much time. There are the masses, who haven't time for anything. And there are the happy middle class, who have time for everything.

There are not many of the first class in this state. They are not particularly to be envied. A man with more time than he knows what to do with is a misery to himself or to everybody else, or to both; for he is either a whiner or a mischiefmaker. People of this class are not doing their share of work; and that usually means that somewhere, sometime, some people are doing more than their share.

The numerous lower class is made up partly of those who are doing more than their share of work, and partly of schemers, who "haven't time" for what they don't like to do. But a great many of this class are people who haven't much to do, and don't do much, but would honestly like to do more if they knew how. Some of them lack decision of character, and spend too much time thinking about whether to do a thing, and if so, how to do it. Let somebody say "snakes!" when they are studying how to cross a ditch, and they can solve the question quickly enough. Let any real emergency call forth their best energies to plan for themselves or others, and their quickness is sometimes surprising to themselves. But without anything to make them decide in a hurry, they are their own worst enemies, for their work is always behindhand.

Some fail to make their time count because they don't plan their work. Sometimes it is best to do first the piece of work that comes first to hand, but that is when a person's work is driving him; when he is doing the driving he will have a time for everything, and he will do a thing when he can do it to the best advantage. Very few people can make good time at work they are not disciplined to do, when hurried or worried. Therefore, the work that we don't just know how to do-and that is necessarily the greater part of students' work-should have our best time. But the most of us don't like to do what we don't know how to do, and such work is often put off till it has to be done. It is easy to find pleasant work that ought to be done, when one has an unpleasant job on hand.

In the distribution of time, the middle class is the upper class. We all envy the man who seems

to have time for all his work. We will usually find, too, that he is the man that has the most to do, and always has it done decently and in order. He makes the most of his time because he carefully plans his work, does whatever he does thoroughly, and promptly decides what he will do and how he will do it. He decides just as promptly what he cannot do, and that leaves him free to do what he does with all his might.

OBSERVATIONS ON THE INDUSTRIAL LIFE OF GREECE AND ROME.

BY PROF. FRANCIS H. WHITE.

NE runs the risk of being thought a pedant desirous of airing his knowledge who frequently quotes the classics or cites Greece and Rome. No doubt it is well to strike out on new lines of inquiry and investigation and free ourselves from intellectual bondage to those countries; and yet, where else can the student of the philosophy of history—one who desires to study cause and effect, tendencies, development—find a better field?

The facts concerning the Greeks and Romans are abundant; many of them were regarded by contemporary writers, and these have been supplemented and verified by modern investigators. Here, as perhaps nowhere else, one may study a nation's complete career-its birth, growth, and death. Notice, too, that they had experience with all the principal forms of government, for they started with what may be called a limited monarchy, then had aristocracy, democracy, and finally, under the emperors, absolutism. In like manner may be traced the progress of their religious, intellectual, or industrial life. To properly treat anyone of these developments would necessitate considerable space, but a few observations are here made in order to suggest some lines of investigation that might be profitably followed.

In the early days of both Greece and Rome no disgrace attached to manual labor; indeed, we find abundant evidence that it was held in high esteem. Homer represents Ulysses, the king of Ithaca, boasting of his ability to plow and reap all day, and we are told, also of his making a bed-stead and inlaying it with ivory, silver, and gold. The familiar story in Roman history of Cincinnatus leaving his work in the field to accept the high office of Dictator, and returning again to his labor when his duties in that position were performed, illustrates the same point. Especially was agriculture regarded with respect. No one was allowed the honor of serving in the army unless a free-holder except some of the carpenters, coppersmiths, and musicians who were in a special way attached to the army. The Roman method of sending colonists into newly conquered territory indicates their confidence in the influence of the farmer's occupation. Their almost invariable custom was to demand from conquered enemies, not tribute, but one-third of the land, and this they divided among the Roman citizens, often times going to the very soldiers who had won it. This method, of course, gave them a hold on the soil impossible to loosen.

The strength, then, of these states in their early history lay in their small landed proprietors. But a change gradually occurred. The small holdings were merged into large estates; public lands, through favor or fraud, were obtained by the influential and unscrupulous; gangs of slaves were introduced to till the soil and the small peasant proprietors becoming discouraged in the unequal contest, retired to the city and lived as best they could. So also, the handicraftsmen in the city were subjected to competition of slaves imported by the wealthy. Not only did the poor freemen suffer in property, but also in reputation; his standing in the community was lowered almost to the level of his competitor; labor came to be looked upon as fit only for slaves. Thus it has always been when slave and freeman have worked side by side.

Instead of being quite recent, as some may

think, organizations of workingmen are very ancient. The historian Mommsen informs us that eight guilds of Craftsmen were numbered among the institutions of Numa, that is, among institutions that had existed in Rome from time immemorial. They were the flute-blowers, goldsmiths, coppersmiths, carpenters, fullers, dyers, potters, shoemakers. Unfortunately, there is but little information in regard to the trade life of the Romans to be obtained, but it is supposed these guilds had as objects the permanent and secure preservation of the traditions of their art; of excluding unskilled workmen; of providing means for social meetings, feasts, etc. No evidence has yet been produced of any attempt on their part to monopolize the trade or exclude inferior manufactures. Attempts have been made to show a direct connection between these guilds and those of Saxon growth, but so far without success. In several respects the latter were superior in that they made provision for mutual help in case of sickness or poverty. The Greeks also had similar organizations. Indeed, nothing is more natural or more common in the industrial history of all nations than to find men of the same occupation uniting for mutual assistance. The classes of Egypt, the castes of India, the guilds of Europe, in different ways bear evidence to the same ten-

The inhabitants of Greece and Rome may be divided into three classes: First, the dominant race, usually inferior in numbers, but superior in rights, and possessing most of the wealth. Their position was obtained by conquest or because they were the descendants of the founders. Second, the freemen; permitted to engage in any occupation and liable to be pressed into service in time of war. They are either the ones who were conquered and have been allowed to remain at liberty, or they have voluntarily joined the community. Third, the slaves or surfs who have been captured in war or have lost their freedom on account of debt. They are granted no voice in the government. The second class seldom have any influence in political affairs, but as in the case of the Roman plebians and "the many" of Athens, win recognition after a long struggle.

The condition of the slaves and serfs must have been wretched. Numbers of them were educated, and in culture and ability were the equals, if not the superiors, of their masters. How, then, were they kept in subjection? Some of the ordinary methods were insufficient food, systematic efforts to break their spirit, branding, or requiring special kinds of garments to prevent running away. In one country, at least (Sparta), the bravest were murdered in cold blood. The method was to order certain of the Spartan young men to arm themselves with daggers and secretly kill such serfs as were thought, because of unusual bravery, to be dangerous to the State. Of course strikes, uprisings, and revolts occurred, such as the strike of 20,000 Athenian slave miners employed at the Laurian silver diggings; the great uprising of Sicilian slaves under Eunus, and of Roman under Spartacus. In general, however, it may be said of all such efforts to secure freedom by force, with but few exceptions they were failures. The punishments inflicted by the conquerors were fearful. Certain it is, however, that "their souls went marching on." Sympathy with their sufferings and admiration for their almost hopeless struggles have assisted in preparing the way for the universal abolition of slavery and sertdom which evidently is in process of accomplishment.

The standard histories, Grote's Greece and Mommsen's Rome, should be studied by those interested in the subject. A work, "The Ancient Lowly," contains much of value, but the arrangement of the facts is poor, and one ought to examine the conclusions with care before accepting them. Brentano is the best authority on the history and development of Guilds.

Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892 - 93. Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Commencement invitations will be issued next

A long-needed cinder walk is being laid to the Iron Shop.

A host of visitors whose names were not learned have been at the College this week.

"The Kansas Conflict," by Ex-Gov. Robinson, has been received by the Library with the compliments of the author.

A defective flue in Prof. Olin's house furnished a small blaze and slight damage, but considerable excitement on Tuesday.

Mrs. Dunlap, of Leonardville, and Miss Anna Bl achley, of North Freedom, Wisconsin, visited the College this morning.

Assistant Chemist Breese has rented the new Kellerman cottage, and will occupy it as soon as the weather permits moving.

The old fire extinguisher, after several years useless existence, has been repaired, and will be kept in running order in the future

Mr. D. J. Stryker, a graduate of the Michigan Agricultural College, visited the College on Monday, and was surprised at the good work being done in the various departments.

The Museum has received a carved elk rib, taken from an Indian grave, the gift of R. A. Clark, Third-vear last fall, of Sitka, Alaska, and from C. A. Campbell, '91, a large pelican, killed near Manhattan.

Mrs. Lizzie Williams Champney, an old-time teacher in this College, now widely known for her charming drawings and literary productions, writes of "An Old Stager" in the Easter number of Wide-Awake.

Capt. J. M. Lee, 9th U. S. Infantry, visits the College this morning to inspect the Military Department in the name of Inspector General. A landslide on the Rock Island Railway between McFarland and Manhattan prevented the inspection yesterday.

The College will supply the Missouri Agricultural College with several thousand botanical specimens to replace, in part, those destroyed by the fire of last winter. Prof. Hitchcock is getting the specimens together as rapidly as his pressing duties will permit.

The last division of the Fourth-year Class entertained the Chapel audience yesterday afternoon with orations as follows: F. C. Sears, "The Eight-hour Question;" May Secrest, "Bread, Meat, and Potatoes;" Alice Vail, "Life the Test of Learning;" Ora Wells, "Castles in Spain;" D. F. Wickman, "Discontent and Conservatism in Our National Life;" C. E. Yeoman, "Why We Pay Tribute;" W. P. Tucker and G. W. Wildin. discussion, "The relative importance of Statesmanship and Invention in our National Development."

A most delightful Faculty party gathered on Saturday evening in the parlors of Mr. and Mrs. Davies by invitation of Mrs. Kedzie, who makes her home with them. Each guest was decorated with some device indicating the title of a book from which he stood ready on demand of proper authority to present a quotation. These wonderful devices brought many an ingenious guess that filled the rooms with cheer until refreshments for the inner man supplied all wants, and equipped the guests for braving the dismal rain that hurried the departure.

GRADUATES AND STUDENTS.

J. N. Bridgman, post graduate, is constructing a grinding attachment for lathes from a design of

Mamie Houghton, '91, has finished her term of teaching at Cleburne, and will spend the summer at home.

R. C. Hunter, in Fourth-year classes last term, finds employment in the office of Van Brunt & Howe, architects, of Kansas City.

Cards are out announcing the marriage of W. S. Hoyt., Second-year in 1885-86, to Miss Olive Webb, of Manhattan, on May 17th.

C. E. Wood, '79, of Denver, stopped over a train on Saturday last to visit the College. He had just returned from a three months' prospecting trip to Florida.

Fred. Knostman, student in 1889-90, is learning something of the duties of a traveling salesman by actual experience in the work under the guidance of a representative of a Chicago clothing house.

WOMAN'S COLUMBIAN CLUB

In response to the call of the ladies of the State Board of Management of the World's Columbian Exposition, a number of the ladies of Manhattan met in the parlors of the Commercial Hotel, where they were greeted by Mrs. R. B. Mitchell, of Topeka, who with Mrs. Hanback, also of Topeka, are doing such able work by organizing the women of our different towns and counties into clubs, and through them making collections of various articles that represent woman's work; and also in many other ways furthering interest in the great exposition that is to take place in 1893.

At the appointed time Mrs. Mitchell called the meeting to order. Mrs. Kedzie was elected temporary President, and Mrs. Olin, Secretary. Mrs. Mitchell gave a brief outline of the work that is expected of the clubs. She gave a most interesting account of the work that has already been done, of the extensive and valuable collections that have been made, and of the plans and purposes that are still to be perfected. Mrs. Mitchell's whole heart is in the work, and she certainly impressed her hearers with the importance of the undertaking, and filled them with a desire to lend a hand to assist in this magnificent enterprise, in the success of which every American man and woman must feel a personal interest and pride.

After the close of Mrs. Mitchell's remarks, the Secretary read the constitution and by-laws of the "World's Columbian Club." It was decided to form a permanent organization in Manhattan. The following officers were elected:-

President, Mrs. Wilder. Vice-President, Mrs. Irish. Secretary, Mrs. Olin. Assistant Secretary, Miss Ada Little. Treasurer, Mrs. Fairchild.

Press Committee, Mrs. Mason, Mrs. Fox, Miss Harper, Mrs. J. J. Davis, Mrs. A. A. Stewart, Mrs. R. D. Parker.

The Club then adjourned to meet Monday, May 16th, at 3 o'clock P. M., in the Presbyterian Chapel. It is hoped that the attendance at this meeting will be large. Let every woman in Manhattan feel that she has a personal interest in this work, and aid the cause at least by being present at its meetings. M. E. S. OLIN, Secy.

EXPERIMENTS WITH SUGAR BEETS.

Bulletin No. 31, bearing the above title, by Professors Failyer and Willard of the Chemical Department, is being mailed. It contains a record of experiments with sugar beets grown on the College grounds and in other portions of the State, and concludes with the following summary:-

"A number of varieties of sugar beets were grown by the Department on the College grounds. To make the experiment more conclusive as to the whole State, 26 counties were visited, and from one-half to two dozen farmers secured to assist by raising a small plat of beets from our seed according to our directions. In addition to these selected localities, seed was sent to more than 100 farmers in 30 additional counties, the whole number of plats arranged for amounting to about 360. The seed used in all cases was of the best strains of sugar beets.

"The extreme wet in the spring and early summer, and the drouth later, combined to make the trial unsatisfactory and inconclusive. The fact that only 40 per cent of those undertaking to

grow beets sent in samples, is probably largely due to the vicissitudes of the season.

"An examination of the tables will show that the juice was usually of quite moderate to low sugar content. In only a few instances were the beets rich, while a greater number were of tair quality. If the beets raised last year represent our average product, the outlook for the sugar beet industry in our State is not bright. But the season was so abnormal that no conclusion, as to an ordinary season, can be drawn from the results of last year. The trial will be repeated, hoping to secure average conditions and results."

COLLEGE ORGANIZATIONS.

STUDENT EDITORS .- Ora Wells, D. H. Otis, C. P. Hartley.

WEBSTER SOCIETY.—President, D. H. Otis; Vice-President, W. H. Edelblute; Recording Secretary, M. F. Hulett; Corresponding Secretary, M. O. Bacheller; Treasurer, G. W. Ginter; Critic, J. W. Hartley; Marshal, H. G. Pope. Meets Saturday evening and admits only gentlemen to membership.

HAMILTION SOCIETY.—President, F. R. Smith; Vice-President J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emerick; Treasurer, C. C. Towner; Critic, G. W. Wildin; Marshal, B. M. Brown.

ALPHA BETA SOCIETY.-President, G. L. Clothier; Vice-Presdent, Birdie Secrest. Recording Sceretary, Jessie Stearns; Cor-Jesponding Secretary, Kate Oldham; Treasurer, G. W. Fryho-Jea; Critic, May Secrest; Marshal, C.C. Smith. Meets Eriday afternoon. Admits ladies and gentlemen to membership.

IONIAN SOCIETY.—President, Ruth Stokes; Vice-President, Eusebia Mudge; Recording Secretary, Nora Newell; Corresponding Secretary, Hortensia Harman; Treasurer, Blanche Hayes; Marshal, Hannah Wetzig; Critic, Ora Wells. Meets Friday afternoon. Admits ladies only to membership.

SCIENTIFIC CLUB.—President, S. C. Mason; Vice-President, J. 1. Willard; Secretary, Lottie J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

The Webster Society was called to order by President Otis. M. F. Hulett led in devotion. Mr. Hulett was then initiated as Secretary to fill the place vacated by Mr. Wilkin. After the reading of the minutes, the debate was opened on the question, "Resolved. That the grade system should be abolished." It was argued on the affirmative by Messrs. Darnell and Dean, who seemed to think that the present grade system failed in that for which it was intended, viz., to give a correct showing of what each student knew of the subject. They proved by numerous illustrations from their own experience, as well as others, the fallaciousness of a representative grade system. The negative was handled by Messrs. Sears and Freeman, who attempted by equally as logical arguments to prove that the grade system is the only means by which our instructors can have any direct knowledge of our standing. It also acts as an incentive to better work. The Society decided the question in favor of the negative. Mr. Farris rendered a declamation entitled "Nature and Nature's God." Mr. Harmon related the experience of Bill Nye with "The Heathen Chinese." The Society was next favored with an instrumental solo by J. E. Mercer. The Society paper was edited by M. O. Bacheller. Discussion, L. W. Hayes. The news of the week was given by G. W. Ginter. W. H. E., Secy pro tem.

May 6th. President Clothier called the society to order at the usual time with a goodly number of Alpha Beta's present. First on the program was an organ solo by J. E. Mercer, C. C. Smith, committee. Sarah Cottrell led in prayer. Roll call. R. S. Trader was unanimously elected a member. We were favored with a very interesting and decidedly humorous declamation well rendered by Ivy Harner on "The Obstinate Music Box." Debate, "Resolved, that a country bred man will succeed better in the city than the city bred man in the country." The judges appointed were Messrs. Hulse, Meade, and Christenson. The subject was argued affirmatively by C. H. Thompson and S. S. Harner. They showed that a country bred man will succeed better anywhere than the city bred man, because he has a healthy body and a strong constitution. His lungs have never been poisoned by breathing the foul air of some of our cities. The question was discussed negatively by Onie Hulett and E. J. Abell. They argued that the city bred man has more of a chance to learn about all things, whether pertaining to town or country, and would be more acquainted with things pretaining to a farm than the country man would give him credit for. The question was decided two to one in favor of the affirmative. The Gleaner was presented by Geo. W. Fryhofer. Music by Martha and Sarah Cottrell. Mr. Austin spoke extemporaneously on the subject "Narrow-mindedness;" Mr. Timbers, on "Spirit Springs;" and Mr. Meade, on "What Inventions have done for the Farmer." These subjects were then discussed by different members of the Society.

May 7th.

At the usual hour the Hamilton Society was called to order by President Smith. Notwithstanding it being a rainy evening, the roll call showed that over half the members were present. Mr. Boardman led in devotion. Debate on the question, "Resolved, That reading gives a better insight into human nature than observation," was the first exercise on the programme. A ffirmative: A. Jackson brought forth many facts and illustrations to prove his side of the question. He showed that by reading the works of great writers we could gain an insight into the character of the writer and of the people that surrounded him. He argued that the writers of standard works were great men who had a good knowledge of human character, and by reading these works we could gain more information in a short time than we could by observing a life time. G. Doll on the negative refuted the affirmative argument by showing that all discoveries and inventions were made by observation, and not by reading, and that to gain an insight into human nature required observation. If a person does not observe, he will not gain much information by reading; that reading only leads a person to observe. The discussion by J.A. Rokes showed that by reading one can get the results of the investigations of hundreds of writers and scientists who have spent their entire lives in making observations. These writers are reliable, and by reading we can get the benefit of their life's work. T. Dawley, on the negative, argued that writers' observations.

were not always reliable, and that to gain an insight to human character a person must study man and not books. Judges Benson, Brown, and Smith decided two to one in favor of the affirmative. A. D. Benson, committee on music, furnished the Society with two well selected pieces of music. An excellent edition of the Recorder was presented by Mr. Gall. After a recess of ten minutes, spent some time in extemporaneous speaking on the subject "That the professors and assistants should be paid according to the results of their labors." The question was discussed principally from the "P. M." standpoint; that if the students working in the farm and garden industrial be paid according to the work they do, should not the professors and assistants in the school be paid according to the work they do? After the report of Critic, the Society adjourned. V. E.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The Manhattan city schools will close on May 20.

The Ottawa University has adopted a new "yell."

The Lawrence High School has had 400 pupils during the present year.

Riley, in Riley county, intends to build a new school house this summer.

Blue Rapids, Marshall county, has voted \$10,000 in bonds for a new school building.

The last number of the University Historical Seminary Notes contained an interesting synopsis of Chancellor J. H. Canfield's lecture on the "Rise and growth of Indivualism," recently delivered before the Kansas State University.

Dickinson County has a County Superintendent of Schools who, when he visits schools, takes along a set of tools, saw, hammer, etc., and fixes all the broken seats, decayed door-steps, and dilapidated brooms he comes across.—Kansas City Star.

News comes from Topeka that Supt. Bloss of the city schools has been elected to the presidency of the Oregon Agricultural College. Topeka loses in him an efficient and faithful educator and a good executive officer, but Topeka's loss is Oregon's gain. Pres. Bloss was at one time the State Superintendent of Indiana.

A few days ago the school children of Kansas City, Mo., conceived the idea of making a voluntary contribution of their pocket money for the benefit of the Children's Free Hospital, because by so doing they could help crippled, suffering children. The amount given is \$348.35, an average of two cents for each pupil in the schools. It was taken up as a penny collection, and by its large total shows what childish love and childish mites can do.

The committee on arrangements for the Saratoga meeting in July have been able to reduce the hotel and railroad rates to very low figures. The "Kansas Headquarters" hotel has put the rate at \$1.50 per day, and the selected route railways have reduced the fare for the trip to about \$30. Special excursion trains will run from Kansas City. For further information write to Prof. Wilkinson, of Emporia, the elected Manager of the Kansas delegation.

The May number of the State University Seminary Notes gives some very interesting statistics with regard to the expenses of the students at that institution: "The table given shows their average expenses to be: Freshman year, \$274.91; sophomore, \$309.16; junior, \$335.04; junior law, \$205.79. These averages show the usual steady increase for each year spent in college. This increase seems to be due to the items of room rent, board, washing, and sundries, indicating that the increased expenses of each year over the last comes from those things which go to make up the comforts or pleasures of student life. The junior law year shows an unusual expense for books, and a remarkably low expense for most of the other items. The sophomore year seems to indicate a desire for fine raiment; the junior year for good board and cleaner clothes. An average expense for all students of \$294.98 certainly puts a University education within the reach of every one who is willing to work hard for it; and this is the average, not the lowest expense."

The St. Marys College *Dial* justly criticises many college papers when it says: "Several of our exchanges, especially those hailing from mixed colleges, seem to make it a point to entertain their readers with little poems and locals of a silly, amorous nature, that are rather calculated to fill the true friend of education with a feeling of disgust. Whether or not it is necessary for a college boy to be constantly flirting with the fairer sex we

leave to the decision of older and wiser heads. But this much we know, that it is excessively vulgar and in extremely bad taste to connect in the college paper the names of school boys and girls in a manner that ought to be offensive, if not to the parties themselves on account of their ignorance. at least to their parents, who send their sons and daughters to school, not to give them an opportunity for flirtation, but to enable them, by a good education, to fulfill the solemn duties of life. We wonder only that the authorities of these respective colleges do not see fit to interfere where the good name and reputation of the institution are so evidently at stake."

THE FUTURE FOR THE FARMER.

The American Agriculturist is of the opinion, after careful research and conservative investigation, that American farmers, as a class, are more prosperous and in a better condition today, both mentally and financially, than they were one year ago. There is thus a most hopeful outlook for farmers during the year before us. The country generally is prosperous and affluent, which means that the people have a good purchasing power. When farmers can find markets close to hand, they generally obtain more remunerative prices than if compelled to ship their produce abroad. It is thus to the interest of all farmers to help build up their own particular sections, thereby providing markets at their own doors. If these fail, or are lacking, we have the world before us, and we believe that the exports of our domestic produce in the prospective seasons will approximate even those of the unprecedented seasons just completed. This may seem a rash conjecture, but let us

We have still available all the markets that have heretofore been open to us, and even to a greater extent, for one of the results of low prices is a consumption, and, when people once become accustomed to consuming American products, they will continue to demand them, even if prices be higher, because the quality was satisfactory. In addition, we have a large number of new markets open to us through reciprocal trade relations that have but recently been established. Heretofore such markets, with their millions of people creating a large consumptive demand, were practically closed by the high tariffs imposed upon our productions, but we now enter them as a favored nation and at an advantage over our competitors in the world's food supply.

The European demand for American produce also bids fair to continue its large proportions. Even with average crops on the continent, Europe will be far from making up her depleted reserves, and may be expected to be a free buyer of our products of 1892.

We need only a favorable season to insure success, and, up to the present time, the indications are decidedly favorable. With careful cultivation on the part of the farmer, the growing and harvesting of good crops, we anticipate that there will be no difficulty in finding a good and profitable market for our produce. Too much of almost any of our crops can be grown, but if only a normal increased acreage is devoted to the principal staples, there is no fear as to the result.

THE RAILROADS AND THE PEOPLE.

The marvelous extension of the general railway system of the Republic and the growth of Territories and States which has followed in the past quarter of a century have been accompanied by an equally remarkable and healthy change in the relations of the public and the companies. The struggle was hardly begun in 1866 between the people and the corporations. The railroad was regarded by its owners as a private business to be managed solely for profit, and by the public as a necessary but conscienceless agent for the carriage of freight and passengers, to be kept in check by savage assaults or reckless raids upon its treasury or its earning power. The principal business of the legislatures came to be railway legislation. Shippers flocked to the State capitols to secure relief from discriminations, speculators to influence the price of stocks by promoting attacks to put them down and then killing their own measures to put them up, and adventurers to prey upon all parties. Freight agents, clothed with unlimited discretion, exercised their favoritism or their animosities upon individuals and communities; but such officers are now as extinct as the mastodon. The struggle might have ended in the destruction of the value of these properties and the permanent crippling of their usefulness. But

sense on both sides, or rather, the American genius and faculty for affairs, has happily solved the problem. The railways have come to acknowledge their popular obligations and semi-public character, and the national Government and the States have substituted wise supervision and regulation for blind and unreasoning attacks. The railway president who acted in equal disregard of the public and of the interests of his stockholders is a memory of the past. The managers of the present of these vast interests, whose proper conduct is so vital to the prosperity of commerce and the welfare of the commonwealth, are, with few exceptions, able, broad minded, and public spirited. They are keenly alive to the grave responsibilities which rest upon them, to the double obligation to the people and the stockholders, which requires both statesmanship and business skill and judgment, and to their duties to that great army of employes, which calls for the head of a general and the heart of a phila: thropist. - Chauncy M.

MANHATTAN ADVERTISEMENTS.

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Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

SUCCESS IN APPLIED MECHANICS. BY PROF. O. P. HOOD.

WHAT subtle quality brings success to one and lack of success to the other of two equally studious men in lines mechanical? What quality distinguishes the natural and well-trained mechanic from the average man in his line? If the difference is the result of a single quality, it is most likely the possession of, or lack of, good

mechanical judgment. He may have rare attainments of skill in many directions, but fail for lack of this.

The experiences of men carefully weighed and compared brings judgment; and to few is it given to weigh and compare with equal skill experiences widely differing in character. How rare the combination of excellent mechanical and financial judgment, and how totally void of mechanical judgment is the usually keen newspaper reporter. The capacity to form good judgment on mechanical subjects is naturally possessed by few, and the rest of us seek to cultivate the capacity by every device. Experience comes slowly. How to turn what little we do get into good judgment for future guidance, is worth study. What would the young engineer not give to possess the accumulated experience of Ericsson or Robeling. But to a large degree the judgment of each must be the essence of his own experience.

To acquire powerful aids in forming judgment, and a capacity to rightly consider mechanical experience, is the opportunity afforded by a technical course, but so powerful are these aids that some have unfortunately considered them a substitute for judgment. This has been particularly true of the too liberal use of mathematical formulæ. Mathematics as an expander of mechanical capacity has been so valuable and so extensively used as to be mistaken by some very practical men and some short-sighted students for the object, and not a means. Among the former such a good engineer as Trantwine appears. who, in his preface to his "Engineers' Pocket-book" says: "Comparatively few engineers are good mathematicians; and, in the writer's opinion, it is fortunate that such is the case." Such sentiments are common among those who do not realize the training to be had by mathematics.

A young man, a college graduate of ten years standing, filling an important responsible position in the civil engineering corps of a railroad, questioned his superior engineers as to the advisability of acquiring more mathematics, and reported their answer to agree with the laconic expression of one who said: "The more mathematics you have the less use the road has for you." A few students who have thought all of engineering was wrapped up in formulæ have given cause for such belief and rise to such stories as that of the young man who designs cylinder walls in exact accordance with formulæ for bursting strength, and leaves nothing for boring and reboring and general soundness of casting; and the young engineer who stopped to figure the center of gravity of a lathe before putting it on skids to move, and of the lathe legs, designed only for the static load, and many more of smaller kind. But while severe criticism is common, often coming from those whose adverse opinion makes it very discouraging, the fact remains that nothing so aids the judgment and supplements short experience as the data and books that are discovered to us by the higher mathematics.

Some turn experience into judgment slowly, while others, either by natural gift or careful training and study, turn slight experience into good judgment. These gain experience by careful observation, and their designs are always at least rea-

sonable. Important parts are never too light; neither are they clumsy. Bearings seem naturally to take correct proportions, and ingenious combinations appear. Bacon says, speaking of study: "To make judgment wholly by their rules is the humor of a scholar, . . . and studies themselves do give forth directions too much at large except they be bounded in by experience."

This "bounding in" is the quality of the successful man; to do it quickly and naturally, is the quality of the genius.

To take the greatest advantage of limited experience, an alert consciousness of its need is the first requisite, and no better second is needed than the habit of close note taking of movements, forms, and and dimensions, and comparing them with each other and one's own judgment. The experience of others thus becomes ours, and helps mold our judgment in ways at least safe if not brilliant.

BOOKS ON THE FARM. BY W. O. STAVER, '93.

O some farmers this is a subject of very lit-I tle importance, while others owe their success to the knowledge gained from books. The average Kansas farmer has very few, if any, books in his house; and the result can readily be seen by looking at the condition of his farm. Even the agricultural reports and the bulletins of his nearest experiment station, which can be obtained free of charge by simply asking for them, are not in his possession. These are gotten up for his special use; and a few hours' reading, would often save the farmer large sums of money and days of useless labor.

The time has come when farmers must read more to make their farms bring larger returns for the time and labor expended on them. The old ways of farming in our grandfathers' time are past, giving way to better and more highly improved methods. The economical side must now also be looked at. To do this, books that give the experience of the best educated men should be at the disposal of every energetic farmer throughout the State. By reading such books as these the farmer will soon be led to thinking and investigating for himself; and if he can find out how to raise the same crop on less land with a larger yield, he will be amply repaid for the time and money expended, in a very few years.

In traveling over the country, we find there are many farmers who do not know even the first essentials of properly sheltering and taking care of their farm animals, or of preventing any of their diseases. By investing only a few dollars in a good book treating on veterinary science and scientific stock-feeding, they would soon raise animals they need not be ashamed to show to their fellow farmers, and worthy to compete with others anywhere. Blooded animals would soon take the place of the "scrubby" ones, and stockraising would be a more profitable occupation.

There are many farmers who even buy all the fruit and vegetables for their table, while the land on which these could 'e raised is lying waste. A few books treating fully on the growth and development of trees and garden fruits would soon teach the farmer how to raise splendid garden crops, and how to set out and take care of an orchard. This would be much cheaper than buying his fruits and vegetables, besides adding to the pleasures and comforts of his home life.

· Last, but not least, books that relate to the affairs of his household and to the general education of his family, such as treat on cooking, the different ways o' sewing and doing fine needle work, and those relating to household economy, should not be neglected. Several music books and as many standard literary works as can be conveniently purchased would add to the pleasures and comforts of every farmer's home, while the time spent in reading and studying them would not be least in value.

With the heretofore mentioned books, a small, well selected library is already established; and with the addition of an occasional book or two, as the tarmer can afford, it would before many years become quite an extensive library, the cost of which would have been paid for by selling more valuable stock and better qualities of farm crops than formerly. The rainy days and long winter evenings could be profitably spent in reading and discussing the different methods and theories set forth, with the family; and as the different seasons advanced these could be put into practice. Those doing this will soon see its advantages; while the time and money spent will soon be amply repaid.

GOOD ROADS. BY SECY. I. D. GRAHAM.

the minds of many, in that they are objects of very general desire and of very general neglect. If any emphasis were needed to the general newspaper demand for them, certainly Kansas has supplied it this spring. About three mouths of bad roads ought to serve to impress upon the farmer that, instead of being something belonging to the public, and therefore of only indirect interest to him, the road is one of the most important of his many necessary pieces of farm apparatus.

The American farmer has been compelled to purchase new and expensive farm machinery and high-grade stock, but he has not been compelled to take care of them. He has often tried to farm by the mile, when the acre would have been a juster measure of his capacity. He has wasted thousands of dollars in the ill-judged voting of bonds for fraudulent sugar factories, creameries, and paper railroads, with the personal satisfaction of paying the bills as his only gain. But of the wagon road which connects him with market, he seems to have taken but little thought.

Of the cost of bad roads in the wear and tear of harness and horse-flesh, of the isolation of the farmer at times when hauling should be done, and of the generally depressed condition of trade, it is not my purpose here to speak, for the reason that these facts can be gained elsewhere, and because the whole question of whether we shall have good roads or not depends entirely upon their cost.

From a special Consular Report upon Streets and Highways in Foreign Countries may be gleaned some facts of possible interest here. In this publication it is shown that very generally the building and maintenance of important highways is under the direct control of the State in most foreign countries, while the roads of less importance, as thoroughfares, are built and repaired by the counties.

In the construction of country roads in the Nantes district in France, it is found sufficient to carefully grade the road-bed and excavate a trench about eighteen inches deep in the middle. This trench is then filled with hard stone broken into cubes of about one and a half inches. This broken stone is crushed into a solid mass by passing a roller weighing 12,000 or more pounds over it many times. The surface is made convex, so that water will readily drain off, and, for country roads, is about six meters wide. The first cost of making this road is about \$1.25 per square meter, and it lasts, with but slight annual repairs, for twenty years.

Fruit and timber trees are planted along the highway and leased to adjacent land owners. This serves to bring in a considerable revenue, which serves to reduce road takes. All roads are constructed under the plans and supervision

of a trained engineer and there is no "working out" road taxes each year along the property of the "pass master" to the neglect of the other roads of the district, as in the American plan.

It is stated, in cases where it is possible to gain facts, that the construction of such a road has served to increase the valuation of adjacent property from 300 to 1000 per cent.

In Kansas, where stone and gravel are so abundant and so easily accessible, it is probably true that the cost of constructing a similar road to the ones mentioned would be less than the prices given; while their value when complete would probably do more for the general prosperity of the State than any other single cause.

STOLEN TOIL. BY B. H. PUGH, '92.

URRENT literature seems like the product of a great factory where the thoughts, opinions, and aphorisms of earlier thinkers are embellished by a transformation of ideas or a transposition of words and issued to the world as the pungent thought of present writers. The North American Review, the Forum, Scribner's, in fact, all the standard magazines, adorn their pages with the most carefully written and beautifully styled productions that reach the press. Every topic is touched: philosophy, science, art, politics, religion, and every conceivable branch of ethics, all bear the impress of minds luxuriant in vocabulary, and display a lucidness of language that bespeaks stupidity in the reader who fails at once to comprehend it. But despite this masterly array of thought of which we so gratefully admit our pride, a probe into the core around which gathers the opinions and ideas of one of our magazine articles, will strike the fossil of some ancient thought handed down from the 16th or 17th century. Some antiquated political idea from Adam Smith, sapped and resapped of its nutrients till only the merest soup-bone remains to stay the hunger of the present generation; some stratified conception from the carboniferous age of science, chafed and eroded by the verbosity of small writers till only boulders of disintegration remain to mark the place of a once beautiful anticlinal. Every thought of the old and gifted writers is pulled from its proper place and adorned with puffs and trills and flounces, then hung up in the literary notion store as a product of modern genius.

True, it is a hard matter for even a live thinker who thinks for himself, unguided by the directing words of a Bacon, a Locke, a Ruskin, or an Emerson, to create new ideas without finding that somehow or other those philosophers have occasionally had his thoughts before he did, but they have now become his own and are rendered doubly valuable to him because of doubled authority.

There may be numerous reasons why this stealing of the toil of others is so prevalent, but for the greater part it is from the very inertness of our minds, the apathy we have for mental exertion, and the ease with which the fruits of literary toil may be foraged. The whole train of youthful ambition at present seems to be to purchase the most luxury with the least mental effort. The back woods have ceased to bear Lincolns and Henry Clays; villages and hamlets have left off their traffic in Websters and Garfields and Franklins and Washingtons. Harvard and Yale no longer issue degrees to Longfellows and Bryants and Adams and Noah Websters. May it not be traced to the fact that the severe rigidity of early surroundings has melted into insipid comfort as modern artifice has progressed? The great ages of thought and reason we so often notice in literature when, as it seemed, whole floods of the most profound wisdom were poured out to the public, were not a natural overflow, but have

been born of national upheavals, when energy and cool thinking were in demand, in order to save republics or crush a nation's evils. Great men are born of great events, and they are thinkers who think for themselves. They borrow no hackneyed postulates from antiquity, but work out their own sentiments in boldness and without fear or trembling.

The result of purloining from others to enrich our minds ends in an accumulation of material that has not undergone transmutation in our own thoughts, an acquired stock of information, like the so-called walking encyclopedia, which gives you a speaking acquaintance with many things, but denies you the privilege of thoroughly knowing a single one. Such a man may fancy himself learned, and may go into all societies and meet a thousand types of humanity; but sooner or later he will find himself confronted by the really live man, the thinker, and at once "his boasted acquisitions fall away as by one stroke of his smiting will or one gleam of his irradiating intelligence."

An earnest and willing young man or woman will never be out of demand, but the youth who educates his eyes and ears, who refines the crude materials of nature by his own mental analysis, before submiting them to the store-house of memory, is the one who will soon transcend the influence of others, and become a positive force in the world, a monumental work of energy and ambition befitting as an example to convince man of the height that may be attained through determination.

A REPRESENTATIVE FARMER.

A representative farmer should be a broad-minded, intelligent man, whose education and experience are not confined to the limits of his farm or even of the State in which he lives. The man who has no knowledge of existing conditions outside the limits of his town or country is likely to become opinionated, and would really represent but little except himself. The representative farmer's knowledge should not be confined to the work of the farm, or even an understanding of the principles involved in animal and plant life. He should be well informed in regard to existing conditions of all classes of farmers, and should be able to analyze the causes of success or depression by which they may be surrounded, and to suggest a remedy for evils wherever they may exist.

He should have a critical knowledge of the condition of other classes, that his opinion of them in comparison with the farming class may be an unprejudiced one. He should be well posted in regard to educational interests and the economic questions of the present time, because they are intimately connected with the life and property of

The representative farmer cannot be a man of one idea. He should not only know how to make 300 pounds of butter from a cow in a year, but he should know whether legislation in his State affects the price of that butter or not. He should not only know how to care for crops so as to make them of the greatest possible benefit to himself, but he should have progressive ideas of how to care for the educational interests of the children of the State, that they may be of the greatest possible benefit to the world. In short, the representative farmer should be an all-round, educated, intelligent, broad-minded, public-spirited man.—

Our Grange Homes.

Connecticut helps on in the movement for a State system of roads, the State Board of Trade having drawn up a bill providing that the State shall develop and maintain those roads which are most necessary to general traffic, leaving the execution of the scheme to special commission. It is evident that no individual town suffers alone the consequences of its bad roads, the neighboring market towns and cities. Every farmers' organization may well consider this subject most carefully. Farmers need, want, and must have better roads, but they won't submit to paying more than their fair share of the expenses involved. Because the y have resisted all schemes of unjust taxation to make them pay for this improvement, farmers have been persistently misrepresented as opposed to better roads.-Farm and Home.

1891-92.
Fall Term—September 10th to December 18th
Winter Term—January 5th to March 25th.
Spring Term—March 28th to June 8th.
June 8th, Commencement.
1892-93.

Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Prof. Rain visits friends in Topeka this week.

The cannon woke the echoes Thursday in Ar-

tillery drill.

About seventy-five volumes were received from

Rev. H. D. Platt, brother of Prof. J. E. Platt, was a visitor at the College on Wednesday.

the binder last week.

Assistant Chemist Breese is comfortably settled in the Kellerman cottage, west of the College.

Rev. Dr. Milner gives the Library a set of Public Opinion and two volumes of the Andover Review.

Prof. Olin is announced as instructor in the Riley County Teachers' Institute, to begin June 6th.

The experimental corn is all planted, and sorghum seeding is in progress as the Industri-ALIST goes to press.

Rev. Robt. McIntyre, of Chicago, has been secured by the College Societies to deliver their annual address June 3rd.

President Fairchild will preach the memorial sermon in the Methodist Church, Sunday, May 29th, at three o'clock P. M.

Assistant Botanist Carleton visited Lawrence on Wednesday and Thursday, and added largely to the Department's collection of rusts.

The social of the Spring Term (for College people only, it seems necessary to state) will be held next Friday evening.

Prof. Walters is experimenting with colors upon enlarged photographs of the grounds and buildings with a good degree of success.

Prof. Olin met his brother, Supt. A. S. Olin, of Kansas City, Kansas, at the train, Wednesday, and had a few moments chat with him.

The new catalogue is printed, and will soon be issued. It makes sixty-four pages of names and descriptive matter, with explanations of course of study, etc.

"The last car of coal for the season" has been ordered three times already, and with present prospects such an order is likely to be a weekly occurrence all summer.

Mr. W. S. Durett, of Jewell County, was a visitor on Tuesday. He purposes to make Manhattan his home with a view of giving his children the advantages of the College.

The Kansas Capital publishes a paper read by our Farm Foreman, Mr. Shelton, at a recent meeting of the Manhattan Horticultural Society, entitled, "A Beginner's Story of Success with Strawberries."

Pres. Fairchild was in attendance upon a meeting of the Board of Directors for the Kansas Educational Exhibit in the Columbian Exposition Wednesday evening at Junction City. The convention of County Superintendents was also in session there.

The Manhattan Fish and Game Association has taken a long step in the right direction by offering a bounty of fifteen cents per dozen on the English sparrow. We have a considerable number of surplus sparrows about the College which might be had for the taking.

Botanical and entomological collections grow apace, although the cold weather makes bughunting a rather difficult task. A few warm, bright days would bring the recluses from their hiding places and do much toward killing the traffic in last year's bugs.

Prof. Georgeson reports wheat and oats as promising well. The season thus far, though

much wetter and colder than the average, has induced a heavy growth of all small grains and grasses. Of the latter there will be a bountiful yield on the College farm, and haying will probably begin in June.

Superintendent M. N. Scott, of the Binghampton (N. Y.) City schools, inspected the various College departments on Saturday and Monday last. Supt. Scott is an old time resident of Manhattan, he having removed from this place in 1859, and the growth and development of the College is much a matter of surprise to him.

The high water covering the road and connecting Eureka Lake with the Kansas River does not deter several merry parties of young folks from visiting Fort Riley today. The high water no doubt adds to the interest of the trip, since

it compels traveling over a road that is both longer and more picturesque than the regular route.

Capt. Lee, 9th U. S. Infantry, inspected the Battalion on Saturday morning, and spoke in very pleasant terms of the proficiency shown, and of the general condition of the Military Department. He spoke to the cadets a few words, explaining the object of such drill as a preparation for citizenship in a country which depends upon its volunteer soldiery for any defense in case of war.

The Sixth Division of the Third-year Class entertained the Chapel audience yesterday afternoon in the following programme: W. D. Morrison, "Desire for Wealth and Power;" Eusebia DeL. Mudge, "Pins;" C. B. Selby, "Anarchy;" Minnie L. Romick, "Good Old Times;" F. R. Smith, "Essential Elements of Success;" Winnie L. Romick, "Vacation;" G. W. Smith, "Garfield;" W. O. Staver, "The Working Manand the Church;" W. E. Smith, "Work the Measure for Man's Worth."

The new catalogue is printed, and will soon be ready for distribution. It shows an attendance of 584 students, coming from 77 counties of Kansas and 14 other States. The summary stands as follows:—

	Gentlemen.	Lad'es.	1 otal.
Post-graduate,	3	7	10
Fourth-year,	27	10	37 62
Third-year,	• • 43	19	62
Second-year,	93	46	139
First-year,	236	100	336
Totals	. 402	182	584

NOTES ON THE "PIN OAK."

BY PROF. S. C. MASON.

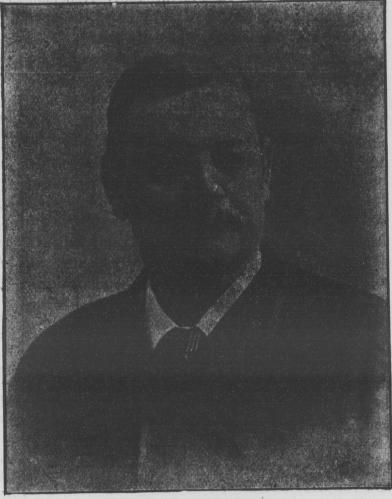
About a hundred trees have been transplanted from nursery rows to permanent places in the grounds this spring, of what is popularly called the Pin Oak, Quercus palustris. These were small seedlings when set in 1888, but have made the most rapid growth in low ground of any species of oak yet tested. Many of the trees moved were six to eight feet in height, and very straight and regular. They grow persistently to a single stem, with many small branches radiating from it, which need to be pruned away to secure a clean trunk. The branches usually grow directly out or at a right angle to the trunk, and some even downward. In older and untrimmed trees, these crowded branches die, and resemble so many hardwood pins driven into the trunk, whence the common name, "Pin Oak." The leaves are rather small, deeply cut, shining, and of a bright, pleasing shade of green.

This oak is a native of Southeastern Kansas westward as far as Elk River, and north to above Ottawa in the valley of the Marias de Cygnes. They are found in dense groves in the low bottom lands, usually some distance from the stream, and often surrounding a bog or pool of stagnant water. They seldom grow to more than a foot in diameter, as I have seen them, and are of little value except for fuel, belonging as they do to the Black Oak family, none of the members of which furnish timber which is durable out of doors. Their very rapid growth while young, handsome conical top, and graceful, drooping lower branches make them a valuable ornamental tree, and one specially adapted to planting on low, rich lands.

Several hundred of them planted four years ago on the stiff clay soil of the old College Farm have made but poor growth, and they cannot be recommended for such a locality. HON. JOHN A. ANDERSON DEAD.

BY PROF. J. D. WALTERS.

A cablegram from the Vice-Consul of the United States at Liverpool, England, received last Wednesday, announces the death at that city of Hon. John A. Anderson, the former President of this College, ex-Congressman of this district, and, at the time of his death, the United States Consul at Cairo, Egypt. Mr. Anderson had been known to be in poor healty for some time, and was on his way home on that account. The body will be forwarded to America and buried in the cemetery at Junction City, Kansas, by the side of his father, mother, and wife.



JOHN A. ANDERSON.

John A. Anderson was born in Washington County, Pennsylvania, June 26th, 1834; graduated at Miami University in 1853, the room-mate of President Benjamin Harrison; studied theology, and preached in Stockton, California, from 1857 till 1862. Early in that year he entered the army as Chaplain of the Third California Infantry. In 1863, he entered the service of the United States Sanitary Commission, and his first duty was to act as relief agent of the Twelfth Army Corps. He was next transferred to its central office in New York. When Grant began the movement through the Wilderness, Anderson was made Superintendent of transportation, and had under his command half a dozen steamers. Upon completion of this campaign, he served as Assistant Superintendent of the Canvass and Supply Department at Philadelphia, and edited a paper called the Sanitary Commission Bulletin. At the close of the war he was transferred to the Historical Bureau of the Commission at Washington, remaining there one year, collecting data and writing a portion of the history of the Commission. In 1866, he was appointed Statistician of the Citizens' Association of Pennsylvania, an organization for the purpose of relieving the suffering resulting from pauperism, vagrancy, and crime in the large cities. In February, 1868, he accepted a call from the Presbyterian church at Junction City, Kansas, and remained its pastor until the fall of 1873, when he became President of the Kansas State Agricultural College at Manhattan, which position he held until his election to Congress in 1878. While President of the College, he was appointed one of the jurors on machine tools for wood, metals, and stone at the Centennial Exhibition.

The subsequent history of John A. Anderson is equally characteristic of the man. He served as member of Congress from this district until the spring of 1891. During the fall campaign of 1890 the Farmers' Alliance movement had with-

drawn from the ranks of the Republican party much of the element which had elected and re-elected him triumphantly in six consecutive elections. Anderson was not re-nominated, and refused to run "wild." The result was, that the Republican party, as well as its trustworthy leader in this district, lost a seat in Congress. Of the large number of Congressional bills which were introduced and advocated by Anderson, may be mentioned the one reducing the postage of letters from three to two cents, and the one creating an agricultural department as a branch of the executive government. In March, 1891, Anderson was appointed Consul General to Cairo, Egypt, and sailed for his new post on April 6th.

In a certain sense John A. Anderson may be called the father of the present Agricultural College of Kansas, as it was his sturdy courage and his practical view of life that abolished the classical system of instruction, organized the scientific and industrial departments, and moved the institution from the old site on Bluemont to its present beautiful location near the city of Manhattan. It is a question whether Kansas would have an Agricultural College as a separate institution today if Anderson's work had been delegated to some one possessing less foresight and political influence. By his death the State loses a man who has had but one ambition—"to serve his country well."

He was an honest man, a warm neighbor, a faithful friend, a successful college president, an intelligent and patriotic statesman, an earnest advocate of reform, a true friend of the laboring classes, and a believer in human progress. His name will ever shine among the great founders and builders of Kansas.

GRADUATES AND STUDENTS.

Alice and Maude Quintard have a visit from their sister today.

Ava Hamill, Fourth-year, returns to classes after a week's illness.

Robert W. Clothier, of Vera, Wabaunsee County, visited his brother G. L. this week.

P. M. Kokanour, Third-year in 1885-6, is secretary of a college association recently organized at Lake Arthur, La.

H. P. Wareham, student in 1887-8, lost 2,000 tons of ice by the high water at Lawrence, where he has a large ice-house.

David Carnahan, of Burlington, Colorado, spends several days with his brother, A. P. Carnahan, a First-year student.

W. S. Forsythe, First-year, had a visit yesterday from his father. The crowded farm work in the late spring calls him home.

D. E. Bundy, '89, writes from his farm at Schroyer, Kan., that he cleared about \$1500 last year, with only \$200 capital to start with.

Rev. A. J. White, class of '74, and wife, sister of Secretary Graham, visited the latter's tamily and inspected the College this week.

William Knabb, '89, was married, on May 18th, to Della E. Edgerton, of Robinson. The home of the young people will be at Hiawatha.

J. E. Taylor, Third-year, drops out to put into practice his knowledge of carpentry in repairing damages by storm to buildings on his father's farm in Shawnee County.

Robert A. Clark, Third-year last fall, now instructor in music in the Presbyterian School at Sitka, Alaska, contributes a column article on "Alaska" to the Manhattan Nationalist this week.

W. S. Hoyt, Third-year in 1886-7, and Olive Webb, Second-year in 1886-7, were married, May 17th, at the residence of the bride's parents in Manhattan. The ceremony was performed by Rev. Mr. Embree, of the Hiawatha M. E. Church. Mr. and Mrs. Hoyt will make their home in Colorado Springs.

EDUCATIONAL NOTES.

BY. PROF. J. D. WALTERS.

Supt. J. M. Bloss, of Topeka, leaves for his new post as President of the Agricultural College at Corvalis, Oregon, next Tuesday.

The May number of the Western School Fournal publishes a biography of Pres. Albert R. Taylor, of the State Normal School, illustrated with an excellent half-tone engraving.

The annual catalogue of the State University is ready for distribution. It is a handsome and interesting document, and its contents make a good showing for the rapidly growing institution.

B. K. Bruce, the first colored graduate of the State University, will deliver the address before the Alumni Association of that institution June 7. Mr. Bruce is an orator, and will give all a treat.

The University Courier publishes some very interesting figures concerning the cost of the Mayday flag-pole raising. It estimates the ruined clothing at \$200 and the lost day's work for the whole institution at \$800.

President Quayle, of Baker University, has prepared a pamphlet entitled "Why Should I Attend College?" Thirty thousand copies have been printed, and will be distributed during the summer at the county institutes to advertise the institution.

The Baker University people are sorely vexed about the innumerable nick-names which are constantly bestowed upon "the foremost College of Kansas." Baker University is not Baldwin College, nor Baldwin University, nor Baker College, nor Baker City, nor Baldwin City, nor the Kansas Methodist School, nor anything more or less than Baker University.

The July meeting at Saratoga of the National Educational Association will give teachers and friends of education—and all mankind ought to belong here—an excellent chance to visit Chicago, Niagara Falls, their eastern friends, and all other places of interest in the Atlantic States at exceedingly small expense. Kansas ought to send a delegation of at least a thousand members. Let all join hands!

Notice has been received at the State University of the shipment from Germany of a consignment of about 500 volumes donated to the school by the celebrated publishing house of T.A. Brockhaus, in Leipzig. The collection embraces works on history and philosophy and rare contributions of German, Italian, and Spanish literature. The gift is valued not only for its intrinsic worth, but as an evidence of the knowledge that the University of Kansas has a name which commands attention even in the cultured centers of the Old World.

COLLEGE ORGANIZATIONS

May 13th. President Stokes called the Ionians to order, and after the usual opening exercises of music and devotion, the roll-call was responded to with alacrity by the few members present. The program opened with a declamation. "The Legend of the Organ-builder," which was most expressively delivered by Bertha Sphor. Following this came a song by a quartette consisting of Mable Selby. Pertha Sphor, Fanny and Verta Cress. The Oracle, having as its motto, "A Woman's Advice is of little value, but you're a fool if you don't take it," was well read by Maude Knickerbocker. This was a bright and interesting num. ber, full of happy hits and gems of thought. Alice Vail followed with a reading, "Aunt Libitha," which was well received by the society. A discussion written by Ione Dewey, and read in her absence, by Harriet Dodson, explained and gave thoughts, on Keely's plan of curing the liquor habit. The news report presented by Daisy Day, was followed by a vocal solo,"Some Day I'll Wander Back Again", by Laura McKeen. A cornet solo by Mabel Selby delighted the Society very much. This closed the programme, and after the usual business proceed ings, the Society adjourned.

May 14th. At the usual hour the Hamilton Society was called to order by President Smith. Mr. Fay led in prayer. Declamation by Mr. Pool. Debate, "Resolved, That the United States should establish a National University," was argued on the affirmative by R. M. Laundy and B. W. Conrad; on the regative, by C. C. Towner and Mr. Farer. The affirmative argued that we need a higher school of learning, one that would give a higher and more practical education than do the colleges of this country. We want a school that will give us a higher education than the German Universities. The cost of mantaining this school would be small in proportion to the taxable property of the country, and instead of students going to Europe to complete their studies, they would be able to receive a better education at home. The negative argued that we do not need a National University; that the State Universities could raise their course of study and do the same work of a National University and at a much less cost; that the schools of this country are nearly on an equal with those of Germany, and it is not necessary to go to Europe to receive a higher education. Judges Lyon, Peck. and Frowe decided in favor of the negative. J. L. McDowell

presented a good number of the Recorder; motto, "Don't be hurt before you are hit."

V. E.

Society called to order by the President. Prayer by Mr. Frost. Question, "Resolved, That the Board of Directors should be elected each term. The affirmative was argued by Messrs. Reed and Morse, who referred the members to the time when they were preps and first years during which time the board was elected at the beginning of each term. The speakers were of the opinion that the long terms were not beneficial to the Society, also the members of the Board tire of long terms with their numerous duties and the fore-thought that should be given to the management of the society. Especially does the Board neglect its duty in the spring term. Negative was presented by G. K. Thompson and W. H. Stewart, who said that when the Webster Society makes a change in its rules and regulations, it is always for the better, and it would be detrimental to go back to the old system; further, it requires experience, and with short terms of office the Society would suffer from inexperienced knowledge and poor programmes. As it is, the Board furnishes the Society with a unique programme each session, reports on all members in a prompt, business-like manner, giving their opinions regarding all cases brought before the Society for trial in short, they are the mainspring of the Society. The Society decided the question in favor of the affirmative. John Stingley favored the members with a declamation. Essay by R. C. Harner, entitled "Get There." Mr. Harner gave us some excellent ideas how to accomplish the all important subject. Essay, C. E. Shoup, entitled "May Baskets." Music, E. M. S. Curtis, assisted by C. B. Selby. Select Reading by Mr. Selby. Discussion by M. W. McCrea. News by Mr. Frost. M. O. B.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silverware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J.WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5.00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city.

B. PURCELL, Corner of Povntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes, Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.

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C. M. BREESE, M. Sc., Assistant in Chemistry. JENNIE C. TUNNELL, B. Sc., Assistant Librarian. Julia R. Pearce, B. Sc., Stenographer in Executive Offices. E. ADA LITTLE, B. Sc., Assistant in Sewing. WM. BAXTER, Foreman of Greenhouse. W. L. House, Foreman of Carpenter Shop. E. HARROLD, Foreman of Ironshop. C. A. GUNDAKER, Engineer. A. C. McCREARY, Janitor.

ASSISTANTS IN EXPERIMENT STATION.

S. C. MASON, B. Sc., Horticulture, Foreman of Gardens. F. A. MARLATT, B. Sc., Entomology. WM. SHELTON, Foreman of Farm. F. C. BURTIS, B. Sc., Agriculture. M. A. CARLETON, B. Sc., Botany.

COLLEGE BUSINESS.

Loans upon school-district bonds are to be obtained from the Loan

Commissioner

Rills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the

Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C.

child, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

THE ENGLISH SPARROW.

BY PROF. D. E. LANTZ.

HERE is perhaps no class of newspaper I items so unreliable as the short notes on the habits of birds which find their way into the local columns of our western papers. For instance, it is common here in Eastern Kansas for newspapers to herald the advent of the robin and bluebird as harbingers of spring. Now, these two birds are winter residents with us, and if their food is abundant they are more common in winter than in summer. It is true that they stay in sheltered places during the coldest weather, and are silent. Their singing and appearance in our towns is as much a harbinger of spring as it is in New England; but it is not an indication of their arrival from the South.

The latest newspaper assertions concerning birds which might mislead the public are to the effect that the English sparrow is not increasing in numbers. The assumption is based on insufficient evidence. The fact that, in a limited field of observation, some inexperienced person does not see more individual sparrows than he did years ago is not enough to enable him to draw an accurate conclusion. A wider range of observation is necessary.

About every town there are only a limited number of favorite nesting places for the sparrow. Crannies in walls about buildings, bird-houses, and the like were occupied years ago by the sparrow to the exclusion of bluebirds, martins, chickadees, and wrens. These latter were compelled to nest in unusual quarters. Many of them sought deserted woodpecker holes in the forest or orchard. After a very few seasons the large and unsightly nests of the sparrows began to appear in the branches of deciduous trees, among the vines about our houses, and in the cedars. This was an evidence that the colonies were becoming crowded. It is possible that these bulky nests are not increasing in numbers, but that would not prove that the sparrows are not increasing in numbers. To determine the actual facts, it would be necessary to know to what extent the sparrow has increased its area of occupancy in our State. A few years ago only the eastern third of the State was occupied, the advance guard of them extending along our river valleys much farther than the general line of advance. The area now occupied includes nearly every county in the

But the sparrow has extended its range into the rural districts; and it is in this fact that the menace to the prosperity of the country lies. Already we hear of damage to small grains in some of the Eastern States, and it is probable that we will soon hear of their depredations in Kansas. In a day's ride into the country in Eastern Kansas, the sparrows are found to be domesticated about every group of farm buildings. The traveler will find them everywhere along the roadsides, and, in the breeding season, he will see them along our streams in the forests, disputing with the woodpeckers and other forest birds for the possession of nesting sites. Here, again, the blue bird, wren, and chickadee are pushed aside by this ubiquitous stranger.

No, the English sparrow is not decreasing in numbers, but is rapidly extending the field of its operations, and will soon become a very unwelcome pest to our farmers. The present law protecting them should be repealed by our next Legislature without any delay.

At present the only efficient agent helping to decrease the sparrow is the sparrow hawk. This little falcon follows them into the dcor-yard, even in our towns, and often captures them. Unfortunately, the unreasonable prejudice against all hawks often leads to the killing of the hawk itself, while he is in the act of rendering us a real service. Another useful aid in the killing of the sparrow is the little screech owl; but, although he is protected by law, he often falls a victim to the same ignorant prejudice.

COLLEGE EDUCATION FOR THE HOUSE-KEEPER.

OR many years after institutions of learning first opened their doors to women, the advantages of the highest education were within the reach of so few, and the course of study was so restricted, that the daughters of the common laborers—the farmers—seldom dared hope for the opportunity of attending a college. In fact, the idea that a good education has any direct bearing upon practical, every-day life, that it in any way can lighten the care or facilitate the management of a home, has not, until within a comparatively recent time, been accepted; and today only the people who are blessed with good common sense realize the importance of broad, scientific training for their daughters. The progressive farmer no longer considers the district school all that his children need; nor does he, while he gives his boys the advantage of a college education, keep their sisters at home. Together they are sent to improve the same opportunity; and the girls keep abreast with their brothers, for both are blessed with strong minds, upheld by strong bodies. It is not often that they are a source of disappointment, for whatever branch of work is undertaken, whether it be in the line of science, art, literature, or domestic economy, the plucky, energetic

daughter works and moulds into success. But what is the use of all these college studies if one never expects to teach? What need has a house-keeper of so much knowledge, a large part of which will soon be forgotten?

True, although the branches, the facts themselves, are not retained, the thoughts, the principles that the girl has gleaned from her study and mastered, make her more competent to judge, reason, and consequently the more scientific and systematic become her daily duties as a home-keeper. While nearly all of the practical arts are becoming perfected, that of house-keeping continues rapidly to grow more thorough and methodical. Today this is no longer considered an achievement that can be absorbed, so to speak, by helping a little with the pleasant parts of the daily work when the young lady feels so inclined; but rather house-keeping is recognized as a work that requires a thorough general education, together with much special work and experience. Never before have there been so many good colleges ready to provide training in this line; and to supplement this work, many intelligent women, through their lectures, books, and papers, continue to improve and promote the art of good home-keeping.

The branches which treat of food, clothing, ventilation, exercise, and cleanliness are very important, and bear directly on the physical welfare of all. If the house-keeper has had the advantage of a thorough course in domestic economy in addition to her mother's training, she will understand the art of properly preparing and serving wholesome and well-cooked food, and she will teel supreme in her kitchen. This kitchen, too, as well as the entire home, in the convenient comfort and beauty which it yields, is largely the product of her well-informed mind. She believes firmly that to work in the kitchen with as few utensils as

possible is unwise or impracticable, just as her husband finds it impossible to do scientific farming without the necessary implements. In proportion as the number of work hands in the field increases, her help within the house needs to be greater; for this farmer's wife realizes that although there are less acres in the farm, and less money in the bank, there is more comfort in the home when the mother's hours from "sun to sun" are not all occupied by the household work, and more social life in the family enjoyed, if some time is reserved for rest and self improvement. Should you chance to make a call at the home of the ideal farmer's wife, the rooms you would find pleasant, neat, and airy; probably you would notice the large windows and fireplaces which, while they provide sunlight and fresh air, lend cheery warmth and comfort. Thus, wherever it is possible, comfort, convenience, and beauty are combined. The flowers are also a source of much pleasure on this farm. If the opportunity for a course in floriculture was never enjoyed by careful study and close observation, in the course of time this art will be quite perfected, and very satisfactory results will be obtained.

Certainly the care of flowers demands much labor, but is it not wiser to take more fresh air and exercise, and consequently less medicine? to work more with the plants in the sunshine, and prepare a simpler desert for dinner? The educated house-keeper will have more to think of than mere gossip and fashions. With her knowledge of literature, and her special interest in woman's work, she studies not only the standard authors, but grasps the best thoughts of current writers on practical subjects. While she gives her best attention to her home, she lives not simply in one small sphere, but reaches out for the culture that will prepare her to become fitted for higher usefulness in the world and enable her to be a power for good unlimited.

MANNER AND UTTERANCE.

BY PROF. A. B. BROWN.

SHOULD culture of manner and utterance be made more of a specialty in our schools? Yes, we reply, as they are in some of our more advanced colleges where industrials are combined with studies. Here, our departments of military training and music have this as a part of their purpose. A young man cannot pass through his course of military drill and retain his awkward gait, nor his course of vocal training which music gives and not be more or less graceful and elegant in his utterance.

But we do not stop with these. Industrials calculated to develop the entire man, giving him the best use of all his faculties, combined with studies, to give him the facts and principles of history and science, are included in our curriculum. Man's culture should include not only what would refine and elevate, but, being a tool-using animal, should give him skill in the use of these. Man not only uses tools, but devises them; nowhere do you find him without them. Hence, we seek to have facilities for all kinds of work and the use of all kinds of tools. There are workers in wood and workers in iron; there are workers in the laboratory, the dairy, the sewing room, the kitchen, the studio and parlor. There are workers in the museum and in the conservatory, workers in the garden, and workers upon the farm; they plant the tree, watch its growth, and gather its fruit; they care for the animal, study its habits, learn its best points and highest utilities, not only the animal that draws the plow, adorns the lawn, and grazes in the field; the bird that cheers with its song and beautifies with its plumage; but those that prey upon blossom and fruit, and bear disease and death under their wings. In a word, all nature is a book, and every day of

every month is a page read and studied by means of the industrials, bringing health and culture to the student to be utilized, not less in practical life than the knowledge derived from the printed book.

The great haste to reach practical and remunerative occupation, on the part of students, makes it impossible to give to these industrials the time necessary for securing from them the best results. A muscle can be trained to fine execution and expertness only by repeated and long-continued efforts; principles can be mastered, methods understood, facts of history and science learned, in comparatively short periods of time. But the fine culture of which we speak, which distinguishes the skilled mechanic, the perfected artist, the trained soldier, the polished gentleman, and the accomplished lady, can only come of long drill; and the inducements for this the times as yet do not furnish.

But with improved taste is coming a demand for improved manners, and beauty is perceived to be no less a good than is utility, after the grosser necessities of existence are secured.

COLLEGE TIME.

BY JOHN FROST, '92.

ALTHOUGH time is not a tangible something, yet, even if we cannot lay our hands on it, it has a value. That time is precious,—is worth something,—we often find verified by unhappy experience. For many times in this life that is "of few days and full of trouble," are we compelled to sit down chagrined as the day of grace closes on unfinished work. "If I only had a little more time," is small consolation when failure thus taunts our belated efforts.

As our earthly time is limited to a few score years, and so made more precious, life with most people is a rush—a constant hurry to finish the work of today in order to be fully prepared for that of tomorrow. So it is with the student. He must learn quickly, yet thoroughly, whatever he intends to do; for life is not all a preparation, neither are its duties forever to be theorized about, but to be accomplished. A loss or misuse of time is, therefore, detrimental to the student's welfare.

There are some who waste time unconcernedly. As study requires careful and patient labor, these students shirk on general principles. They are too indolent to exert themselves, too indifferent to be aroused by the apprehensions of low grades, and when the dreadful time of reckoning arrives, their conspicuous lack of information soon brings them to confusion.

But there are others who waste time by unwise application to their student duties. They do the wrong thing at the wrong time. Their studying is carried on in a mixed up and desultory way. The trouble is no system is used, no wisdom shown, in the method of studying. Poor results necessarily follow.

Another loss, it seems to me, arises from spending too much time on work outside of that outlined in the college course. Societies, college papers, athletics, and especially contests, take well with nearly every student. They provide different work from that in the college course, which to some extent becomes monotonous. No doubt, in this line of variation from the regular studies of the course to more interesting and living affairs, they are valuable. And so long as the enthusiasm that pervades them does not lead to neglect of the college studies, they may be thought of as a helpful stimulant to the latter.

But with many the temptation to engage deeply in the work of societies, to enter exclusively into the fascinations of athletics, and to enthusiastically sustain a spirited interest in contests, is

so strong as to soon draw the student's attention from his proper duty to that which has no connection with a college education. The unessential, the foreign, is substituted for the essential and the real. And as surely as this is true, time is lost, wasted, by spending it in a line that does not strengthen or nerve the young man or young woman to battle better with the elements of life.

KINDRED INSTITUTIONS.

Bulletin No. 19 of the Pennsylvania Station gives information on spraying fruits.

"Irrigation" is the title of Bulletin No.28 of the South Dakota Station, Brookings.

The Eighth Annual Report of the Wisconsin Station is a bulky pamphlet of 326 pages.

"Field Experiments with Corn, 1891," is the title of Bulletin No. 20 of the Illinois Station, Champaign.

"Diseases of Crops, and Their Treatment" is discussed in Bulletin No. 15 of the Delaware Station, Newark.

Bulletin No. 13 of the Canebrake Station, Uniontown, Alabama, is devoted to corn; Bulletin No. 14, to "Cotton."

The Wyoming Station reports upon the soils of its experiment farms in Bulletin No. 6. The Station is located at Laramie.

Bulletin No. 36 of the Auburn, Alabama, Station is devoted to some leaf blights of cotton. Bulletin No. 37 reports upon "Tobacco."

"Notes on the Use of the Babcock Test and the Lactometer" are given by Prof. Babcock in Bulletin No. 31 of the Wisconsin Station, Madison.

The Annual Report of the Board of Live Stock Commissioners of the State of Illinois for 1891 is received from the Secretary, C. P. Johnson, Springfield.

Field experiments with corn, sugar beets, and diseases of the sugar beet root are subjects reported upon in Bulletin No. 39, Vol. 3, of the Purdue University Station, LaFayette, Indiana.

"Experiments with Commercial Fertilizers" is the subject of Bulletin No. 3, Vol. 5, of the Ohio Station, Columbus, No. 2 of the same Station being a report upon mangel wurtzels and sugar beets.

Bulletin No. 19 of the Iowa Station, Ames, reports upon flaxseed meal and oil meal, varieties of potatoes, corn growing, experiments with fungicides, hints to beginners in dairying, lice infecting domestic animals, and sugar beets.

Bulletin No. 27 of the Vermont Station, Burlington, is a report of tests of dairy apparatus. Bulletin No. 28 of the same Station shows potato blight and rot, a new potato disease, potato scab, apple and pear scab, and oat smut.

A sample of the first cotton ginned by electricity is acknowledged from the Department of Engineering of the Agricultural and Mechanical College, Auburn, Ala. The specimen evidently shows good work, but whether profitable or not cannot be judged.

"Your Weeds and Your Neighbors," "Distribution of Our Weeds," "Bad Points of Weeds," "Weeds as Fodder for Stock," and "Chemical Weed Exterminators" are subjects discussed in Bulletin No. 22 of the West Virginia Station, Morgantown.

Don't imagine it necessary to have a Babcock tester to find out whether your cows give rich or poor milk.

Well-bred stock appears to be growing more and more popular. As yet, there is not enough to go round.

Great is the need of newly built roads, but greater still the need of better methods of maintaining our present ones.

Success generally attends well tended crops, in spite of insect depredations. I certainly have noticed that crops, feeble because of poor seed, poor soil, and poor management, are the ones that the insects harm the most.—I. H. Hoskins.

1891-92. Fall Term-September 10th to December 18tb Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement. 1892-93. Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

A new flag has been received for the Main Building.

Prof. Walters is hard at work filling out the diplomas.

The Farm Department sold a lot of fat hogs last week.

There will be no College exercises on Monday, Memorial Day.

Mr. Baxter's bed of cacti in front of Mechanics' Hall makes a fine show.

The Band and Orchestra furnished music for the closing Social last night.

Two thousand invitations to the exercises of Commencement Week are issued this week. Prof. Brown has charge of the music for G. A.

R. Memorial services and for Decoration Day. The College Cadet Band furnished music for

the Battalion Drill on the Campus yesterday afternoon. The older students are receiving the annual

visits of general agents with reference to summer occupation. The special students in drawing are making

blue prints of their work for exhibition during Commencement.

The educational exhibition fund is still growing. Among the late contributions is one from Muscotah of eighteen dollars.

Dealers in Manhattan have kindly consented to carry bills against the College until the funds from the Government are received.

New matting for the chapel aisles will take its place next week. The old will cover the stairways in the main hall Commencement Week.

Foreman House, of the Carpenter Shop, has been confined to his bed for about ten days by congestion of the bowels. He was for a day or two in a critical condition, but is now in a fair

Bulletin No. 32 from the Experiment Station, the last of the series for 1891, is ready for distribution, and will be followed at once by the Fourth Annual Report, containing an index to bulletins Nos. 20 to 32, inclusive.

President and Mrs. Fairchild caused Thursday evening of last week to pass pleasantly, and consequently quickly, to the members of the Fourthyear Class assembled at the executive residence for the annual party.

It was a merry party that thronged the corridors of College Hall last evening in the social of the Spring term. The entertainment in chapel was provided by a "picked nine" from the Athletic Club in a variety of acrobatic feats and gymnastic exercises which formed a pleasing diversion from routine programmes. Time-honored games, with a steady current of social small talk, occupied the remainder of the evening.

The annual game of ball between Fourth-years and Faculty was played yesterday aftercoon in the presence of an admiring crowd made up of the friends of the contestants. The game was chiefly notable for the multiplicity of errors and big scores, both of which were about equally divided between the clubs. At seven o'clock the game concluded, the Seniors retiring the Faculty with the bases tull. Score—Seniors, 39; Faculty, 38.

Secretary Graham entertained the audience in Chapel yesterday afternoon with an interesting discourse on "The Other Half," in which he set forth some plain truths regarding woman's work and sphere in life, in which she is placed by circumstances. He dealt considerably on her trials and never-ceasing toil as a home-maker, of which | closing exercises of his (the Fairview) school.

her consort knows so little. While the discourse was one of sound sense and good advice, there was that undercurrent of humor characteristic of the speaker, which added to the interest and effect on the audience.

Messrs. A. L. Brockway and J. W. Scott, of Macomb, Ill., were pleasant visitors on Monday and Tuesday last. They think some of locating in Kansas, and are much pleased with the "beautiful city" and its school advantages and surround-

Hon. Cyrus G. Luce, Ex-Governor of Michigan, who delivers the Annual Address on Tuesday, June 7th, is widely known among the farmers of the country as a leader worthy of the name, who has advocated genuine education for farmers' sons and daughters. As a public speaker, he has won repute for his earnest, energetic, entertaining addresses; and his theme here, "Success," will call out some of his best thoughts, with his genuine experience behind them.

Mr. Mason has lately brought to the notice of the Botanical Department a disease attacking various kinds of pines on the College grounds. disease manifests itself by a brown discoloration of the upper part of the leaves on various parts of the tree, sometimes nearly all its leaves being thus affected. Later on small black pustules appear, scattered over the brown portions of the leaf. These are found on both surfaces, and are frequently aggregated in transverse lines. Microscopic examination shows numerous fungous filaments throughout the brown portion of the leaf, these being concentrated at the surface to form the pustules, or perithecia. The latter are scarcely at all immersed in its epidermis, and contain numerous linear, hyaline, straight, or curved spores, with one to three partitions. These spores are about four-thousandths of a milimeter wide, and from twenty to twenty-eight long. The following species are found to be attacked: Pinus pungeus, P. sylvestris, P. mitis, P. Laricio, P. rigida, P. pumila, P. Austriaca, P. Strobus. The disease is probably due to reduced vitality on account of the unusually cold and wet spring, thus allowing the fungus to gain an entrance.

The following from the Ottawa Assembly Herald is of immediate interest in connection with the programme of Commencement week: "Robert McIntyre was born on the Tweed, near Abbottsford, within sight of the home of Walter Scott. Here he spent his early youth, and drank in from that bracing air and rich landscape, that gave the inpiration for Lady of the Lake and Marmion, a soul full of the richest impulses and purest purposes. His early education was of the most practical character, and as he stepped out into the broad field of full manhood, he found himself in possession of a rich legacy—a first-class stone mason. And it is with modest pride that he exhibits his trowel, with which he earned his livelihood. From his advent into the ministry his way has been steadily upward and upward, until to-day he is pastor of one of the wealthiest and most popular congregations in the country. Three years ago he traveled in Europe, Egypt, and the Holy Land, and his lectures on these subjects are marvels of most complete word painting. In appearance Mr. McIntyre is one of the substantial sort. His frame is strong, compactly built, and very erect; his eye is bright and full, with a twinkle of merriment in it; his face is boyish, but every line is attractive. There is no waste matter, either of mind or body; the whole man seems to be a great engine of power and endurance, running with the smoothness and delicacy of a well-balanced watch."

GRADUATES AND STUDENTS

Laura Day, Third-year, drops out of classes on account of ill health.

A. D. Cozad, student in 1887-8, is prospering as a job printer in Kansas City.

C. A. Campbell, '91, is employed by the Horticultural Department in preparing material for exhibition at the World's Fair.

Emma Spohr, Second-year in 1886-7, visited her sister in College yesterday, having just finished a year's teaching in the Manhattan schools.

Frank Waugh, '91, sends Prof. Walters an original drawing of some complex shade and shadow phenomena observed by him on a factory chimney at Helena, Montana.

Ben Skinner, '91, sends the programme of the

He hopes to visit the College during Commencement. Later-He came yesterday.

H. E. Moore, '91. writes from Portland, Oregon, of his engagement with Hulse, Bradford, & Co., wholesale upholsterers, and speaks of having recently visited the school of Eunice Donaldson, Second-year in 1886-7, who is teaching near Oregon City.

COMMENCEMENT WEEK PROGRAMME.

FRIDAY, JUNE 3.

Address before the literary societies, by Rev. Robert McIntyre, of Chicago.

SUNDAY, JUNE 5.

Baccalaureate sermon, by President Fairchild, at 4 P. M.

MONDAY, JUNE 6.

Examinations from 8:50 A. M. to 3:10 P. M.

TUESDAY, JUNE 7.

Examinations from 9:50 A. M. to 12:10 P. M. Meeting of the Board of Regents, at 9 A. M. Class day exercises, for the invited guests of the Class of '92, at 3 P. M.

Annual address, by Hon. Cyrus G. Luce, Ex-Governor of Michigan, at 8 P. M.

WEDNESDAY, JUNE 8, COMMENCEMENT DAY.

Graduating exercises at 10 A. M. Military drill at 2:45 P. M.

Public conveyance to and from College in connection with all exercises.

Dinner on Wednesday, in Armory Hall, by the ladies of the Christian Church, of Manhattan.

COLLEGE ORGANIZATIONS.

STUDENT EDITORS.-Ora Wells, D. H. Otis, C. P. Hartley.

WEBSTER SOCIETY.—President, D. H. Otis; Vice-President, W. H. Edelblute; Recording Secretary, M. F. Hulett; Corresponding Secretary, M. O. Bacheller; Treasurer, G. W. Ginter; Critic, J. W. Hartley; Marshal, H. G. Pope. Meets Saturday evening and admits only gentlemen to membership.

HAMILTION SOCIETY.—President, F. R. Smith; Vice-President, J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emerick; Tressurer, C. C. Towner; Critic, G. W. Wildin; Marshal, B. M. Brown.

ALPHA BETA SOCIETY.—President, G. L. Clothier; Vice-President, Birdie Secrest. Recording Sccretary, Jessie Stearns; Corasponding Secretary, Kate Oldham; Treasurer, G. W. Fryhojei; Critic, May Secrest; Marshal, C.C. Smith. Meets Eriday afternoon. Admits ladies and gentlemen to membership.

IONIAN SOCIETY.—President, Ruth Stokes; Vice-President, Eusebia Mudge; Recording Secretary, Nora Newell; Corresponding Secretary, Hortensia Harman; Treasurer, Blanche Hayes; Marshal, Hannah Wetzig; Critic, Ora Wells. Meets Friday afternoon. Admits ladies only to membership.

SCIENTIFIC CLUB.—President, S. C. Mason; Vice-President, J. T. Willard; Secretary, Lottie J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

May 20th.

Society called to order by Pres. Clothier, with not only the Alpha Betas present, but many visitors. First on the programme was music, a quartette, by the Misses Palmer and Messrs. Abeli and Fryhofer. Prayer by Mr. Thackrey. Rollcall. Debate, "Resolved, that the old bachelor lives a happier life than the old maid." Affirmative speakers were Miss Edwards, G. W. Fryhofer, and Elva Palmer; negative, J. N. Harner, Sarah Cottrell, and Chas. Morgan. The subject was discussed from a humorist's standpoint, and well argued on both sides. Music, quartette, by Messrs. Clothier, Fryhofer, Abell, and Lyon, E. J. Abell committee. We next listened to an oration by Jessie Stearns, on the subject, "Nothing Ever Grows Old," in which she showed careful thought and preparation. Toast to the Dairy girls by C. C. Smith, and response by Stella Kimball. Toast to the Second-year boys by Maggie Stewart, and response by H. Halstead. We were next favored with a declamation by Inez Palmer, on "The Power of Habit." Music, quartette, by the Misses Palmer and Cottrell, One of the nicest things on the programme was a poem by Grace Clark on "The Creation." Gleaner by W. O. Lyon-The paper contained many interesting and several decidedly humorous articles with illustrations, for which the artist is to be highly praised. Music, a quartette, by Messrs. Clothier, Abell, Fryhofer, and Lyon. Recess. Miscellaneous business. Assignment to duties. Reading of minutes. Adjournment.

May 21st. The Webster Society was called to order. Roll call. A. Dickens appointed Critic protem. Prayer by B. H. Pugh. Reading of minutes of the last meeting. Debate, question, "Resolved, That there's a good time coming, and coming mighty soon." L.S. Harner opened the affirmative by naming all the near future events, as the College social, commencement, Fourth of July, etc. Mr. Pfeutze opened the negative. of this great question, showing that by the continual worrying of mankind at the expense of happiness, the good times W. J. Rhoades continued the never arrived. affirmative, and B. F. S. Royer spoke on the negative Mr. Harner and Pfeutze quickly exhausted their vocabulary and racked their brains, but all in vain, so at the end of fifteen minutes the debate closed. The Society decided to postpone the decision of the debate indefinitely, or until the return of the Glacial Epoch. These debaters, no doubt, have a bright outlook. The next order being passed to, Chase Cole favored the Society with a declamation. It is evident that Mr. Cole is possessor of a humorous mark. Declamation by G. C. Wheeler. We commend Mr. Wheeler on his oratorical powers. since the piece was well delivered. Essay, J. W. Hartley, title, "Effects of the Capture of Fort Sumpter upon the North and the South." Music by Mr. Gilkerson, assisted by Messrs. M. F. Hulett, Chase Cole, and E. G. Gibson. Reporter was read by E. W. Reed, being edited by C. A. Kimbali. Discussion by E. A. Donaven. Discussion by C. D. McCauley. News by Mr. Todd. M. O. B.

EDUCATIONAL NOTES

BY. PROF. J. D. WALTERS.

The Kansas School for the Deaf and Dumb at Olathe will this year graduate six pupils.

Midland College, at Atchison, will have its Commencement exercises from June 3rd to June oth.

The Leavenworth High School was founded in 1871, and has graduated since then 311 pupils, of whom 18 have died.

The graduating exercises of Ottawa High school were held May 26. The class numbered eighteen—twelve young women and six young men.

The high school of Kansas City, Mo., has graduated seventy-three pupils this spring, forty-nine of whom were young women and twenty-four young men.

The teachers of Kansas City, Kansas, intend to charter a special car for their delegates to the Saratoga meeting of the N. E. A. in July. They seem to want the flag this year. Where is Bickerdyke and his Russell County "Marms?"

The University will confer degrees upon eightythree students this commencement, this being the largest number in the history of the University. The seniors are distributed among the various schools as follows: School of arts, 24; school of law, 33; school of pharmacy, 13; school of music, 9; school of engineering, 4.

The Washburn Argo Reporter complains that that the new catalogue of their College cuts out of the course all instruction in Biblical History, History of Art, Spanish and the Greek of the senior year. It says: "Persistent application of this method of retraction will, in a few years, make Washburn one of the best high schools of the State."

The meeting in July at Saratoga will undoubtedly be the largest educational gathering ever held in America or perhaps in the world. It is expected that over 20,000 teachers and educators will congregate to consider the great question of how to educate the coming Americans. Kansas ought to send a large delegation, and undoutedly she will. With half rates granted for railroads and hotels, the expenses will be within the reach of every live teacher.

As there are at present a number of agents goring through the country selling to school boards charts, maps, and such things at three times the regular prices, the following, from the County Superintendent's course of study, seems pertinent: "Get the most necessary things first—dictionaries, blackboards, crayon, and erasers—, then globe, maps, charts, etc. Buy of our thoroughly reliable local dealers, not of irresponsible agents or firms."—Lawrence Journal.

The Faculty of the State University is discussing the publication of a magazine from original research to be called the Kansas University Quarterly, which will be devoted entirely to original contributions to knowledge that have never been published before. Each number will contain investigations in several different lines of work. The first number is to be issued about June 1, and is to contain articles on original work in paleontology and entomology by Prof. S. W. Williston, E. C. Case, W. A. Snow, and Vernon L. Kellogg. This number will contain fifty large octavo pages, besides seven full-page half tone plates.

On Thursday of last week the charter of the "Boissiere Odd Fellows' Orphans' Home and Industrial Association" was filed with the Secretary of State. The institution has an endorsement by E. V. De Boissiere, a Frenchman, who some years ago had bought 3,156 acres of land in Franklin County, and has now given it, together with all improvements, implements, farm animals, etc., to the Odd Fellows' lodge for the purpose of erecting upon it an industrial school for Orphans. The property is said to be worth at least \$ 100,000, and steps will be taken to open the school in September so as to give the State the immediate benefit of the generous gift.

If your farm machinery is sufficiently aired by standing out over winter, bring it in, repair it, and oil it.

Secretary Mohler's crop report for April, 1892, shows a very satisfactory condition of the crops named except corn, which has been much delayed by wet weather.

BUSINESS IN FARMING.

In an address lately delivered before a meeting of Massachusetts farmers, A. R. Eastman said the farmers should study to draw information, and learn a lesson thereby from other industries. All others have men at their heads who have a knowledge of all their branches and needs. They know what every article costs from the time it is started till it is finished and shipped. The farmer should know fully as much, but he does not, as a too common rule, and what is more, persists in plodding along without any thought of making better his condition by understanding the business affairs of his business.

All our wealth came originally from the farm and the mine, said Mr. Eastman. The miner knows how much each ton of coal or ore cost to mine it, and how much it costs to transport it into the final purchaser's hands. Why should not the farmer know just as much about his products; and why does he refuse, year after year, to put himself in possession of this knowledge? He should not only know what every product costs, but from which comes profit or loss. Only by studying his business in every detail can he know this; and it includes a knowledge of the value of fertility taken from the soil by every crop he raises, as fertility is an item of expense. If the grower of a crop knows all this and the other items of cost, and has an account of sales and the money received, he will know if he has lost or made money during the year.

Intelligent farming, like intelligent directing of any other industry, will alone insure success. The farmer hereafter, in any locality, or in any branch of diversified farming, must have a thorough knowledge of it or he will fail. He can no longer follow in the old beaten path, or pursue the idiotic, haphazard methods of his grandfather. The times have changed, and we have changed with them—that is, some of us have, and the others must, or the sheriff will sell them out.

Poverty is illustrated by the condition of the roads and the farms that bound them; by unkempt horses, debilitated wagons, broken harness, and a ragged, half-dressed man. Success waits upon the man who works his land for that which feeds his stock, when every steer carries to market a ton of hay in the shape of beef, and fifty or more bushels of corn; when every colt or filly, every hog or sheep does measurably the same, and when butter by the ton will represent train-loads of hay, and grass; and oats, and corn, and other stuff. We must learn to set our crops so as that in marketing they will cost the least money. Help at home doesn't cost half as much as it does on the road or on the train.—American Farmer.

Every really good farmer is a scientific farmer. He may not know it, but he applies scientific principles to his work, and his reighbors point to him as a successful, common-sense farmer.—Farmers' Tribune.

The results of work done at our experiment stations should be taken as suggestions for further individual trial on the farm, rather then as a final settlement of the matter in hand.—Geo. T. Pettit.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the ability to use his chances well.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. Noother rules of personal conduct are announced.

Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alfha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

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DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5.00 you will be presented with one of three books; "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

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MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

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6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

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Loans upon school-district bonds are to be obtained from the Loan

Commissoner

Bills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Thompson.
Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.
Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

ments of study of work, may and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

COLD VICTUALS

BY MRS. NELLIE S. KEDZIE.

S we remember that summer is here by the A almanac, if not by the weather, we begin to dread the heat of cook stove and kitchen, which is sure to find us by the middle of June, and to stay with us until September has hung out many of the glories with which she seeks to beguile us into forgetting our past woes of heat and flies and the three meals that must be prepared, even on the hottest day of roasting August.

Ice is such a luxury to the housekeeper it ought to be more generally used; but we find in the country, at least, it is the rare exception instead of the general rule. We are inclined to let tomorrow take care of itself, and don't like to put up ice in the winter for next summer's use.

There seems to be a general feeling that if men work hard they must have hot meals; and in general it is true that warm food will digest more easily than cold. However, when the body is warm with exercise, when the weather is warmer than the body can become in health, the cooling influence of palatable cold food will often be grateful to digestion as well as to the palate.

One trouble about giving a family cold meals, or about putting cold dishes on the table, is this: the food is only half cold; it has been allowed to stand about in the air of the kitchen until it is neither cold nor hot; and no one likes food served at such a temperature. Another reason is, no care is taken to make it tempting in appearance. There are many dishes made of milk and eggs, that, served cold, are much more digestible than hot puddings, and which are more acceptable cold than hot in warm weather. The vegetables which are so abundant in summer time, and which give to the system the lighter food which warm weather demands, are many of them quite as enjoyable served several hours after they are cooked, if they be very cold, as they are eaten

There are many ways in which the housekeeper may save herself if she will. Too often women forget that they owe something of themselves, to their family, and while they give to their children good food, good clothes, and a pretty home, they forget to give them a little of mother every day; and they wonder that their young people grow away from them and find their interest outside the

It ought to be in a woman's plan to make just as much out of her life as possible; and if cooking herself over the stove in the middle of summer days be the hardest kind of drudgery, then she ought to do as little of such work as possible. A good hot breakfast and cold meals the rest of the day will often help the housekeeper wonderfully. And the rest of the family will be satisfied if these cold meals be good ones. They can be cooked in the early morning while it is cool; then, if kept in a cool cellar until wanted, they will be acceptable to all the family. This needs some calculating ahead, and some planning for meals to come. No one can live "from hand to mouth" and expect to derive any comfort from cold meals. The scraps and anything "picked up" will not do for these meals; for it is never wise to grow careless about the meals at this season. Appetites are not too vigorous in hot weather, and they need a little judicious coaxing to keep each body from becoming weakened enough to make it an easy prey to fall fevers and the like. However, this coaxing may be done with cold meals, as well as with hot ones many times.

Guests, too, will often enjoy a cold meal and some of the company of the woman they are try-

ing to visit, much better than an elaborate hot meal and a cooked hostess.

Good food, and plenty of it, is a necessity; but it is not essential that it always be served just as our grandmothers served it. If every housemother would put thought as to ways and means into her work, and not feel that she must continue to do her work in hard ways simply because she so began it, she would find more time for comfort in life than falls to the lot of many.

Cold victuals in summer will not hurt the family if well cooked and daintily served; and they may mean rest and happiness to the housekeeper.

OUR COLLEGE LIFE.

BY JESSIE M. STEARNS, '94.

[Read before the Alpha Beta Literary Society.]

TOTHING ever grows old," were the words of a half crazed individual, made so by an attempt to write an oration on something new and original.

People of this generation have had so many new things that they are not content with what they possess, but are continually striving for something more, like one of John G. Saxe's characters "who still kept Oh!-ing for all he had not, not contented with owing for all he had got." No life is absolutely free from this strife, yet the College life is as near an ideally happy one as any we will find. Here the strife for wealth, and its many bitter disappointments, are forgotten in the nobler aspirations and more exalted ideas of living. We forget to be narrow and higoted, for we partly comprehend the vastness of the knowledge that we have not. In a community where education and learning are highly prized, you will find the true aristocratic feeling: a man takes rank according to what he is, and not according to his bank account. From this very fact, a more kindly feeling prevails, making every one ready and eager to help those with whom they are associated. This feeling occasionly extends too far on examination days. We are taken out of ourselves and the petty rivalries, that cause so much hard feeling, by our endeavor to bring something of sunshine and gladness to the lives of others; and in this, perhaps, lies the true reason for the happy days of College.

We live in a world all our own, separated more or less distinctly from the outer world and, it is principally though letters from home and friends that we are reminded of the restless surging to and fro of humanity in its struggle for existence. Surely here, as nowhere else, our world is what we make it; and the most of us have found that the pleasant, happy part predominates, in spite of some lessons we are supposed to learn. Even with those there is the consolation of knowing that we cannot help but advance if they are at least reasonably well prepared, for every thought and act has its influence in making us what we are, and in preparing us for our life work.

Not the least of the many blessings to be derived from a life such as ours are the many happy recollections that we shall take with us. They will filter the dross of selfishness and evil, and keep us broader minded and truer to the principles of right, besides being worth more than all the patent medicines to keep the system toned up.

In a short time the College days of some will be over forever, and in their rejoicings to be free are mingled regrets for the life they are leaving. I hope for our comrades who will leave us that thoughts of our Society will be among their happiest recollections. Time moves on, and gives them sterner duties, while others fill their places and know the same joys and trials of those who have gone before. Each set enjoys their College days as much as the last, and finds as much to do, and, though a seeming paradox, 'tis true that "Nothing ever grows old."

SCIENTIFIC CLUB REPORT.

May 26th 1892.

The Scientific Club was called to order by Pres. Mason. The minutes of the previous meeting were read and approved. The programme of the evening was opened by Mr. G. L. Clothier, whose talk on original researches in Algæ was as follows:

Algæ grow in both salt and fresh water, single individuals of those growing in the ocean often being hundreds of feet in extent. They are classed, according to the coloring matters contained, into the red, the olive, the green, and the blue. The green algæ are more abundant than any other in this neighborhood, they being found in every puddle, ditch, or creek containing clear or stagnant water. They consist of green filamentous plants, made up usually of single rows of cells. These are very beautiful under the microscope because of the pure, green color of the chlorophyll contained. In Drapamaldia plumosa the green of the chlorohyll is very bright, and the plant in general is one of beauty. It consists of a main stem with hyaline cells except where a zone of chlorophyll runs around the middle of the cell. To this main stem may also be attached numerous secondary stems with cells not so large as the first. Growing out of the sides of these stems are fascicula te branches made up of a multitude of little branchlets. Thèse branches and branchlets are made up of fertile cells in which the chlorophyll is very dense. When the plant reproduces, the protoplasm of these fertile cells bores its way through the cell wall, escaping and swimming about voluntarily until it finds something to which it attaches itself. It then begins to grow by elongating and dividing into two cells; these divide again until a new filament is the result. I have observed diseased Spirogyra in which an organism gains entrance within the cell wall. It feeds itself upon the chlorophyll and grows, elongating into a jointed plant-like growth, this dividing up into motile bodies called monads by Zopg. My opinion is that these organisms should be classed with parasitic plants. I observed a motile spore from one of these parasites work its way through the Spirogyra cell walls and escape. Under the influence of this disease Spirogyra kept in-doors disappears very rapidly. Within the cells containing this abnormal growth are found moving bodies filled with chlorophyll, having gorged themselves with that of the host plant. These move with a sort of jerking rotary, motion for many hours, and finally come to rest. I suggest that they may be a resting condition of a plant instead of animals, as they have been described. I am certain that they belong to that border land between the animal and vegetable kingdoms that has been disputed so long. What they are I will not dare to say.

Mrs. Kedzie gave an interesting talk on "cake." Specimens of many kinds of cake made in the kitchen laboratory were shown and tested, and all felt satisfied that such cake could produce no evil effects. A great many questions were asked about the different steps in cake-making and cake-baking, and why certain results were obtained, which were cheerfully answered by Mrs. Kedzie.

Mr. Mason followed with his subject on

NOTES ON DISTRIBUTION OF KANSAS TREES.

The distribution of forest growth in Kansas demonstrates clearly what sorts are best able to survive in the trying climate found as we approach the plains. There are about seventy species found in the State, nearly all of which occur in the southeastern counties. A few are found only in the northeast toward the Missouri River. As we go west, the number of species, as well as the density of growth, gradually diminishes till Box Elder, Ash, Elm, Hackberry, Cotton Wood, and Willow are all that remain along the western fourth of the

State. The area drained by steams tributary to the Arkansas River affords many species not found along those streams further north that flow direct to the Missouri River.

The task of defining the precise limits of each species of tree in the State is a heavy one, and one toward which but little has been done so far.

The assistance of students and others interested in the subject is invited in securing as full notes as possible from their various home localities. In order to make the observation of the greatest value specimens of flowers, leaves, and fruit should be secured where it is possible. Properly identified specimens of the wood of various species, with notes as to the size attained and habit of growth, are of great value, as species of wide distribution vary greatly from one portion of the field to another.

The Papaw, Asimina triloba, is found through the eastern counties and as far west as Manhattan.

Basswood, Tilia Americana, extends west as far as Riley County. Prickly Ash, Zanthoxylum Americanum, rarely becomes tree like in size; westward as far as lower Solomon Valley. Wafer Ash, Ptelea trifoliata, occurs in southeastern counties. A species of Holly, Ilex decidua, is confinde to a few southern counties. Wahoo, or Burning Bush, Euonymus atropurpureus, is usually but a shrub; westward to Solomon Valley. Rhamnus lanceclatus, Indian Cherry, to Riley County. Æsculus glabra, Smooth Buckeye, is found in the eastern counties and Æ.arguta, a smaller species, extends to lower Republican. Of the Maple family, Sapindus marginatus, soap berry, or Wild China is found in the southern tier of counties. Sugar Maple, Acer saccharinum, occurs in several eastern counties, while the Soft, or Silver Maple, A. dasycarpum, is common along river banks westward to the Blue Valley. The Box Elder, now called Acer negundo, is one of the most widely distributed trees of the State.

Only one Sumac, Rhus copallina, reaches tree-like size. This is found throughout the

Of leguminous trees, the Black Locust, Robina Pseudacacia, seems to be native on the Verdigris River in Montgomery county. The Kentucky Coffee Tree, Gymocladus Canadensis, is found westward to the lower Solomon valley, and the Honey Locust, Gleditschia triacanthos; still farther out on the same stream. Red Bud, Cercis Canadensis, extends to the lower Republican valley.

Of plums, the common Prunus Americana is found throughout the State. P. Chicasa, the Chicasaw plum, usually has a more southern range.

The wild Black Cherry, P. serotina, is common to about the line of Topeka. A form of the Choke Cherry, P. demissa, becomes of tree-like size in many of the western counties.

The Wild Crab Apples, Pyrus coronaria, and P. augustifolia, are found in the eastern counties as far as Manhattan.

Of the thorn trees commonly called Red Haws, several species are in the State. The most common, Cratægus coccinea, is not uncommon in Riley county, and has been reported from the Solomon and Salina valleys.

The Service Tree, Amelanchier canadensis, is

reported from southeastern counties.

Bumelia lanuginosa, sometimes called the Shitten-wood, is a thorny tree with strongly scented wood and small wedge-shaped leaves, which hang on late in the season; usually a small tree with gray bark, but sometimes becomes forty feet high, with rough, black bark and ragged limbs. This is confined to the southern counties. It rarely becomes a foot in diameter.

Of ash trees, the White Ash, Fraxinus Americana, in the southeast, and the Green Ash, throughout the State, are quite abundant along the streams where any timber is to be found. Two other species are reported on doubtful authority.

The Sassafras, S. officinale, is common only on Spring River in Cherokee County, though reported from two other southern counties.

Of Elms, the Slippery Elm. Ulmus fulva, and the White Elm, U. Americana, are found throughout the State about as far as timber extends. U. alata, Wahoo Elm, is a beautiful small tree with corky wings of bark on the twigs, reported from southeastern counties and collected in the Indian Territory just across the State line.

The Hackberry, Celtis occidentalis, ranges from a tall and stately tree in the southern and eastern woods to a mere gnarled bush on the chalky bluffs of the western counties.

The Red Mulberry, Morus Rubra, is nowhere abundant, but ranges westward to the lower Solomon valley.

Authentic reports of the Osage Orange, Maclura aurantiaca, wild, and not escaped from old hedges, are so far wanting.

The Sycamore, *Platanus occidentalis*, is sometimes found eight or nine feet in diameter along southern streams. It has been noted westward but little beyond Junction City.

Of Hickories, seven species are reported in the State. The Pecan, Carya olivæformis, is common in the southeastern counties. The common Shellbark and Big Shellbark, C. alba and C. sulcata, extend about as far west as Topeka, while the Bitternut Hickory, C. amara, is found along

the lower Republican river.

Ten species of oak have been identified in Kansas, and a careful survey may reveal one or two more. The White Oak, Quercus alba, is found in scattered groves in the northeastern counties as far west as Oskaloosa. Post Oak, 2. stellata, Wang., ranges a little west of Topeka. The Chinquapin Oak, Q. Muhlenbergii, Englem., extends to the Republican river in Clay county. The Burr Oak, 2. macrocarpa, has the widest range, being found on the Solomon river tributaries to Bow Creek, in Rooks county. Of the Black Oak family, the Red Oak, Q. Rubra, the Black Oak, Q. tinctoria, and the Black Jack, Q. nigra, extend to the Blue river near Manhattan. 2. palustris, the Pin Oak, is common on low, wet ground in the southeastern counties, while 2. imbricaria, with smooth, lanceolate leaves, extend occurs the more northeast portion of the State.

The Iron wood, Ostrya Virginiana, across through the northeastern counties to Riley, always a small tree. One Birch, Betula nigra, grows near the water along southern streams.

Of several willows, the Black Willow, Salix nigra, extends to the head of many western streams, and the long leaved willow, S. longifolia, is common on sand bars along most of our streams.

The Cottonwood, *Populus monilifera*, extends as far as a tree is to be seen along our western streams. Specimens twenty to twenty six feet in circumference and a hundred feet high may be found as far west as the central line of the State.

The Red Cedar, Juniperus Virginiana, seems to be confined to the more central portion of the State, from Pottawatomie to Trego county, and ranging across the State from north to south. It is most commonly found on the slope of high, rocky limestone or chalk bluffs, and some remarkable groves have been nearly obliterated in the western counties.

One pine, P. mitis, the short-leaved yellow pine of the South, has been reported as found in Kansas, on Spring river, but a careful search has failed to reveal any specimen nearer than several miles below the line in the Indian Territory, nor do old settlers remember to have seen it on this side

The above list is given as being only incomplete and preliminary, and with the hope that many Kansans who are interested in trees may be induced to offer additions and corrections.

Prof. Hitchcock closed the programme with notes on botanical characteristics of Kansas trees.

A MUCH-ABUSED TITLE.

LOTTIE SHORT, Secretary.

The title "professor" troubles Cambridge men little or not at all. "Mr." is the favorite title at Harvard, and even the President of the University is usually spoken of as Mr.; that is, when the speakers are not affecting sophomoric ways. Professors from small fresh-water colleges are much surprised at this absence of professional insistence when they come for special study to the University. It is said that "Doctor" particularly troubles English LL. D.'s when it is applied to them. Professor Freeman was very brusque to Americans who tried to call him "Doctor." Mr. Huxley says: "From the time I first procured a visiting card (a proud day even with a philosopher) it has borne 'Mr. T. H. Huxley,' but I have no objection to the 'Professor'; the only thing I cannot stand is "Doctor." An English comment upon this is: "He is doubtless right about 'professor." In Scotland it is still thought a good deal of, but in England it is too closely associated with massage, ballooning, and patent ointments; but that he should object to 'doctor' strikes one as a little hard on the medical calling." It is particularly hard, as Mr. Huxley won some of his first honors as M. D.—Boston Transcript.

rS91-92.
Fall Term—September 10th to December 18th
Winter Term—January 5th to March 25th.
Spring Term—March 28th to June 8th.
June 8th, Commencement.
1892-93.

Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school disrict bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

Visitors are arriving by scores.

Dr. Mayo visited Kansas City on business last Monday.

The Fourth-years and Third-years will play ball Monday afternoon.

Mrs. Bolton and daughter have gone to Philadelphia to visit for a few weeks.

ment time for many a year.

Ex-Regent Hessin leaves for Minneapolis today

Flowers have not been so scarce at commence-

to attend Republican National Convention.

Laura Day, A. Dickens, and E. C. Abbott

are elected Student Editors for the Fall Term.
Several members of the Faculty expect to attend

the funeral of John A. Anderson at Junction City on Monday.

S. C. Harner, '90, greets College friends. He is farming near Lasita, a newly established post-office in northern Riley county.

Mr. L. A. Palmer, of the Clifton News, visited his sisters in College on Friday, on his way to the Republican National Convention at Minneapolis.

The Austrian pines on the College grounds are again, by the processes of nature, converted into Christmas trees, decorated with myriads of candles.

The City authorities are making another effort to drain the street bordering the College grounds on the east, and that too with fair prospects of

Owing to the part the College takes in honoring the remains of Hon. John A. Anderson, which arrive tomorrow afternoon, the Baccalaureate Sermon will be postponed until five o'clock.

Attention is directed to Mr. Mason's paper in the proceedings of the Scientific Club to be found in another column. Mr. Mason will welcome corrections or additions to the list from any part of the State

Prof. Georgeson this week sold to the Armours, of Kansas City, a bunch of fine cattle that had been fed experimentally. A record will be kept of each animal killed, and the results will be set forth in a bulletin soon to be issued.

Those of our friends who did not receive invitations to the Commencement exercises will remember that all are welcome. The two thousand invitations issued anually are sent to friends of the College at a distance, and the general public is always invited in a general way; but the invitation is none the less sincere and hearty on that account.

The Seventh Division of the Third-year Class occupied the Chapel rostrum yesterday afternoon in the last public exercise of the year. Speakers and topics follow: R. C. Harner, "Occupations;" Nora Newell, "The Southern Ballot;" Jno. E. Thackrey, "Two Kinds of Power;" Poæbe Turner, "An Exception;" C. H. Thompson, "Ideas vs. Individuals."

Teams from the Webster and Hamilton Societies met on the ball field vesterday afternoon, and played an interesting game of five innings. The Hamiltons won by a score of ten to six. Players and positions follow:—

WEBSTER.	POSITION.	HAMILTON
F R Jolly	Catcher	W. S. Pope.
E T. Platt	Pitcher	F. R. Smith
W A Cavanaugh	First Base	W. E. Smiih
G K Thompson	Second Base	E. C. Abbott
I. S Harner	Third Base	C. W. Wildin
M. F. Hulett	Short Stop	
T Front	Left Field	I. Jones
F. C. Sears	Center Field	L. P. Holland
D H Otis	Right Field	O. A. Otten

GRADUATES AND STUDENTS

H. W. Avery, '91, is here for Commencement.

G. C. Gentes, Third-year in 1890-91, arrived yesterday afternoon.

Emma Glossop, '83, is in Chicago pursuing a special course of study.

H. N. Whitford, '90, has gone to Colorado Springs to spend the summer.

Mrs. Ida Quinby-Gardiner, '86, greets friends in and about College this week.

Dora Thompson, Second-year in 1890-91, visits

Colleg friends during Commencement time.

Phæbe Turner, Third-year, had the misfortune

recently to sever a tendon in her hand by a piece of glass.

H. W. Mattoon, second-year student last term,

came up from Topeka last Sunday on his bicycle
—a new safety.

H. B. Gilstrap, '91, comes in from Chandler, Oklahoma, today, to witness the exercises that give his sister the degree of B. Sc.

G. L. Melton, Third-year in 1890-91, spends a week with College friends. He is farming near Arkansas City, but plans to return to classes in September.

P. C. Milner, '91, and J. T. Rumble, student in 1890-91, are here for the Baccalaureate sermon. Their duties in the Santa Fe offices at Topeka prevent their remaining for Commencement.

D. G. Fairchild, '88, takes a vacation from his work in the Division of Vegetable Pathology, Department of Agriculture, at Washington, D. C., and visits home folks. He will spend the summer in experimental work at Geneva, N. Y.

J. H. Calvin, a graduate of our college in '84, and whose parents live near Riley, is a candidate for Judge of the Shawnee County District Court. Mr. Calvin is practicing law in Topeka, where he is recognized as a young man of great industry.

—Mercury.

G. W. Wildin, of the College, has been offered a lucrative position in the department of construction engineers of the Santa Fe at Topeka, which he will probably accept soon after commencement. When students complete their course of study at the Agricultural College their services are in demand in all branches of industry.—Mercury.

THE WEATHER FOR MAY.

BY PROF. E. R. NICHOLS.

Temperature.—The past month was the coldest May in thirty-five years, the mean temperature being 57.83°, which is 6.15° below normal. The highest temperature was 90°, on the 1st; the lowest, 38°, on the 6th—a monthly range of 52°. The warmest day was the 16th, the mean being 68.5°; the coldest, the 21st, the mean being 45°. The greatest range for one day was 35°, on the 1st; the least, 2°, on the 31st. The mean of the observations at 7 A. M. was 54.26°; at 2 P. M., 65.26°; at 9 P. M., 55.9°. The mean of the maximum thermometer was 68.42°; of the minimum, 48.68°; the mean of these two being 58.55°. The mean for the 1st decade was 53.8°; for the second, 57.43°; for the third, 61.86°. There were only eight days above the mean for May.

Barometer.—The mean barometer was 28.738 inches, which is about normal. The highest was 29.045 inches, at 9 P. M. on the 21st; the lowest, 28.27 inches, at 7 A. M. on the 28th,—a monthly

range of .775 inches.

Wind.—The wind was from the northwest twenty-four times; east, seventeen times; north, twelve times; southwest, ten times; northeast, eight times; south, seven times; west, seven times; southeast, three times; and a calm five times. The total run of wind for the month was 10,077 miles, giving a mean daily velocity of 325.06 miles, and a mean hourly velocity of 13.54 miles. The highest daily velocity was 665 miles, on the 18th; the lowest, 95 miles, on the 26th. The highest hourly velocity was 46 miles, between 11 A. M. and 12 M. on the 18th.

Rain-fall. — The total rain-fall for the month was 6.625 inches, which is 1.53 inches above the normal. There were twelve rains. Between 3:20 and 3:55 P. M. on the 30th, 1.1 inches of rain.

Cloudiness.—There were ten days entirely cloudy; three, five-sixths cloudy; four, two-thirds cloudy; three, one-half cloudy; two, one-third

cloudy; three, one-sixth cloudy; and six cloudless.

The per cent of cloudiness for the month was fifty-eight; for the first decade, seventy-two; for the second, sixty; for the third, forty-two. The normal per cent for May is forty.

Casual Phenomena.—There were two hail storms on the 4th, and thunder storms on the 4th, 12th, 13th, 14th, 16th, 17th, 27th, 28th, and 30th.

Below will be found a comparison with the preceding Mays:—

May.	Number of rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Vinimum Temperature.	Mean Barometer.	Maximum Barometer.	Vinimum Barometer.
858	12	5.12		59.95	91	39			
859	12	9.42	sw	65.61	88	42			
860	3	1.13	8W	69.10	97	30			
861	8	3.76	sw	64.46	90	42			
862	8	3.18	M	65.38	89	46			
863	4	3.13	8	68.80	91	48			
864	6	2.29	8W	64.80	89	35			
1865	6	2.04	8	67.16	90	32			
866	7	2.83	sw	62.19	90	45			
867	77	8,59	N	58.73	93	41			
868	3	1.38	8	66.08	88	50			
869	8	1.12	NW	59.11	88	43	28.72	29.05	28.30
870	5	.91	SE	67.63	93	49	28.73	29.00	28.40
871	7	5.07	SE	65.05	88	45			
872	iı	6.81	SW	58,99	90	30			
873	10	8.54	SE	61.84	86	44			
874	7	2.98	8W	68.88	93	40	28.77	29.01	28.11
875	10	2.46	SW	64.15	98	29	28.71	29.04	28.10
876	7	5.73	SW	63.84	86	34	28.71	29.02	28.20
877	18	5.20	SW	64.16	84	31	28.66	28.90	28.24
878	11	4.06	sw	62.02	85	34	28.66	29.04	28.24
1879	7	1.79	8	68.58	93	40	28.56	28.85	28.18
1880	6	3.74	8	70.40	94	44	28.56	28.88	28.28
1881	14	6.67	SE	68.25	87	46	28.59	28.84	28.22
1882	8	5.20	NW	58.35	86	36	28.59	28.88	28.10
1883	11	4.83	8W	60.74	90	37	28.57	28.94	28.06
1884	5	4.63	SW	61.61	85	35	28.55	28.78	28.21
1885	8	4.30	NE	60.75	86	35	28.57	28.83	
1886	9	4.87	E	69.61	100	42	28. 85	29.21	28.38
1887	8	2.54	sw	68.53	99	37	28.85		
1888	5	2.25		60.16		30	28.88		
	17	6 15	SE	63.11	94	30	29.01		
1889	7 10	6.15	CONT	62.86		30	28.79		
1890 1891	8	4.79	SW	60 88	89	30	28.95		
1892	12	6.62	S NW	57.83		38	28.74		
Means	8.1	4.00	sw	63.98	90.3	38	28.71	29.02	28.27

May. Militis S. WIND RECORD.

May. Militis Daily.

1889 9520 308.95 914 63 12.87 44 63 1890 6123 197.48 547 57 8.23 35 1891 7691 241.10 552 57 10.34 35 1892 10077 325.06 665 95 13.54 46 Means 8353 268.15 670 68 11.25 40

COLLEGE ORGANIZATIONS.

STUDENT EDITORS.—Ora Wells, D. H. Otis, C. P. Hartley.

WEBSTER SOCIETY.—President, D. H. Otis; Vice-President, W. H. Edelblute; Recording Secretary, M. F. Hulett; Corresponding Secretary, M. O. Bacheller; Treasurer, G. W. Ginter; Critic, J. W. Hartley; Marshal, H. G. Pope. Meets Saturday evening and admits only gentlemen to membership.

HAMILTION SOCIETY.—President, F. R. Smith; Vice-President, J. D. Riddell; Recording Secretary, W. O. Staver; Corresponding Secretary, V. Emerick; Treasurer, C. C. Towner; Critic, G. W. Wildin; Marshal, B. M. Brown.

ALPHA BETA SOCIETY.—President, G. L. Clothier; Vice-President, Birdie Secrest. Recording Sccretary, Jessie Stearns; Corasponding Secretary, Kate Oldham; Treasurer, G. W. Fryhojei; Critic, May Secrest; Marshal, C. C. Smith. Meets Eriday afternoon. Admits ladies and gentlemen to membership.

JONIAN SOCIETY.—President, Ruth Stokes; Vice-President, Eusebia Mudge; Recording Secretary, Nora Newell; Corresponding Secretary, Hortensia Harman; Treasurer. Blanche Hayes; Marshal, Hannah Wetzig; Critic, Ora Wells. Meets Friday afternoon. Admits ladies only to membership.

SCIENTIFIC CLUB.—President, S. C. Mason; Vice-President, J. I. Willard; Secretary, Lottie J. Short; Treasurer, F. A. Marlatt. Meets on the fourth Friday evening of each month in Chemical Laboratory.

May 28th.

At the usual hour the Hamilton Society was called to orderby President Smith. After roll call the Society was led in pray er by Mr. Rich. Reading and adopting the minutes of previous meeting. The programme was opened by an essay by Mr. Findley, in which ne gave a good description of the different kinds and cultivation of "Tea." Declamation by N. H. Painter, in which he described the building erected for the coming World's Fair. Debate, "Resolved, that wealth is more beneficial than education." The affirmative was represented by I. Jones and Mr. Barnett. The negative by R. B. Abbott and W. Bryan. The question was thoroughly discussed, each side presenting many facts to prove his side of the question. The judges, Rice, Yeoman, and Hartley, decided two to one in favor of the negative The Recorder was presented by A. O. Axtell; motto, "Let others attend your funeral." This was an excelent issue, and Mr. Axtell is to be congratultaed on his success as an | editor. A quartette consisting of Messrs. W. E. Smith, F. R. Smith, R. Dull, and E. L. Froe furnished the society with some excellent music. There being considerable business to transact, the Society voted to drop the remainder of the programme of the evening. After sometime spent in society business, Messrs. Skinner, Brock, and Creager, of the class of '91 spoke a few encouraging words

May 28th.

The Websters were called to order by President Otis. Rolecall. Prayer by M. O. Buchaller. Reading of the minutes of previous meeting. Debate, "Resolved, that there always have been and still are greater writers not prose than poetry." Affirmative, Messrs. Hulett and Trembley; negative, Messrs. Bacheller and Evans. The affirmative thought that in the be-

ginning of every literature prose is developed late because of its superiority; that poetry usually deals with love, while prose deals with scripture questions. He mentioned the names of Bunyon, Milton, Scott, Gladstone, and Stanley as great prose writers. The negative, after refuting the argument of the affirmative, mentioned some of the great poets and their works, as Chaucer and his Cantebury Tales and Shakespeare and his works, also several other great authors and their works. The Society decided in favor of the affirmative. Delcamation, T. W. Morse and A. F. Neimoller. Essay, C. R. Pierson and A. Dickens. Music, D. H. Otis. Discussion, E. A. Clark. News Mr. Wetzig. Recess, ten minutes. Instrumental music, Mr. Platt. Considerable business was transacted by the Society. Adjournment.

May 77th. A goodly number of Ionians and visitors had filled the Hall when Vic president Mudge called the Society to order. After congregational singing, prayer, and the calling of the roll, President Stokes being now persent, took the chair, and the programme opened with a reading, by Edith Stafford. This was a selection from Stockton's "Rudder Grange," and was well chosen and well read. Mary Lyman next favored those present with the rendition of the poem, "Agnes the Martyr." This was followed by a vocal solo by Marie Haulenbeck, accompanied on the organ by Ge. tie Haulenbeck. A bright edition of the Oracle was presented by Fannie Cress. "Tears." "A Descriptive Sketch," "A Poem by an Entomologist," "Egyptian Literature," "What the Farmer thought of our College, and What the City Girl Thought," were all interesting articles, showing evidence of careful preparation. A guitar quartet te, composed of Misses Dewey, Lee, Mudge, and Walters, was greeted with enthusiam by the Society. Ida Pape gave the news report of the week, after which Alta Lee, accompanied on the organ by Ione Dewey, sang a solo. This closed the programme, and aftet business, the Society adjourne 1.

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EDUCATIONAL NOTES

BY. PROF. J. D. WALTERS.

The High School of Dickinson County, at Chapman, has graduated its first class this year.

The recent cyclone at Wellington completely demolished the new \$30,000 high-school building.

Baker University has reached the highest enrollment in its history, the total for the year being 500.

The Wichita School of Oratory, G. W. Hoss Principal, will hold a summer session from July 5th to August 13th.

The graduating class of the Emporia High School numbers 23, which is the largest class in the history of the school.

The first series of county institutes will begin June 9, except in Shawnee county, which has been postponed until June 15.

Westport has offered Prof. T. R. Kirk, of the Kansas City high school, the superintendency of schools with a salary of \$2400.

The graduating class of the Presbyterian College at Emporia numbered three, one young man and two young women.

Forty-eight young people graduated from the high school at Lawrence, last week. Thirty of them will enter the State University.

Bethany College at Topeka held its commenceexercises on June 1st graduating four young ladies. Rev. S. B. Pond addressed the graduates.

Dr. Franklin Johnson, President of Ottawa University, has resigned his position to accept the chair of Homiletics and History in Rockefeller University, at Chicago.

A father and mother in Marshall County have been arrested for failure to send their children to the public school in their district. It is to be made a test case, and the result will show whether Kansas has a compulsory school-law or not.

At the Kansas State Oratorical Contest at Fort Scott, E. P. Schneler, of Midland College, Atchison, won the first honors, and J. A. Orr, of the Kansas Normal College of Fort Scott, second honors. The subject of the former was "Our Nation's Debt to Posterity," the latter "The Brotherhood of Man." There were four contestants. The judges were, A. E. Wagner, of Kansas City, Mo., William Bishop, of Salina, and C. F. Scott, of Iola.

It will be noticed that section 61 (on page 29) of School Laws of 1891 forbid the County Treasure paying out any district money for any district officer, or any other person, after the 30th of June until the annual meeting has been held. It would be well for District Treasurers to settle up with the County Treasurers before June 30th, and take up all old orders in his hands. By this means the true firancial condition of the district can be ascertain-

ed, and the accounts of different years need not be confused.—Russell Signal.

Prof. Wilkinson, of the State Normal School at Emporia, the manager of the Kansas excursion to the Saratoga meeting in July of the National Educational Association, reports the outlook for a large delegation from this State as very flattering. The opportunity to visit the East at greatly reduced rates will induce many to join the excursion who are not teachers. For official route, rates, etc., write to Prof. Wilkinson, Emporia, Kansas.

The annual school meeting, to be held on Thursday, July 28th, should elect a Director for the long term. The official term of persons appointed during the year expires at this annual meeting. A person elected to fill vacancy in the office of Treasurer, holds his office one year. A person elected to fill a vacancy in the office of District Clerk, holds his office two years. The person elected as District Treasurer must have his bond properly executed and filed before he is sworn in.—Russell Signal.

The plan for a National Columbian Public School Celebration has been approved by superintendents in national convention, hundreds of our most influential newspapers, very many eminent men and women, and, more important than any of these, thousands upon thousands of pupils in the public schools themselves. The spirit displayed by these little men and women of the land leads us to express the opinion that they will carry out their part of the programme on Columbus Day in a manner which will reflect credit upon themselves and their teachers.

The programme of the eighth session of the Kansas Chautauqua Assembly is just issued, and gives evidence of an unusual effort on the part of the management to provide a good one. The dates are June 21st to July 1st, at Oakland Park, Topeka, Kansas. President Quayle, of Baker University, is Superintendent of Instruction. The lecture programme includes the names of Sam Small, J. F. Berry, Jahu De Witt Miller, Chaplain Lozier, John Merritte Driver, General W. H. Gibson, T. H. Dinsmore, W. A. Speecer, The Fisk Jubilee Singers; The Elocutionist, Free Emerson Brooks; the Crystal Glass Player, D.W. Robertson, and Prof. Hair. There will be classes in English Literature, Elocution, Delsarte, Philosophy, Sunday School and Primary work. Special days will be Temperance, Patriot's, C. L. S. C. Children's and Labor Day. A full program may be obtained by addressing Kansas Chautauqua Assembly, 107 West Sixth Street, Topeka.

There is a tendency today to believe that the right frame of mind tor dealing with the gravest problems is to generate a state of violent excitement, to adopt any remedy, real or supposed, which may suggest itself at the moment, and to denounce everybody who suggests difficulties as at cynic or cold-blooded egotist, and therefore to treat grave, cronic, and organic diseases of society by spasmodic impulses, to make stringent laws without asking whether they will work, and the boldest experiments without considering whether they are likely to increase or diminish the evil.—Leslie Stephen.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principal ly a part of their education, and is not paid for unless the student is employed—outside of required hours of labor—upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the ability to use his chances well.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth-year classes. Once a week all the classes meet, in their class-rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alfha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

K. SHAW, Jeweler and Optician. Watches, Jewelry, Silverware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

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The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments, of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work actualized

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' institutes should be addressed, as early in the season as possible to the President.

The Experiment Station should be addressed through the Secretary.

COMMENCEMENT EXERCISES.

The Twenty-fourth Annual Commencement of the Kansas State Agricultural College is a thing of the past. It was marked by a programme of fully average interest,-no more,-average attendance, and a pleasant day. There were no distinguishing features-no accidents, and few incidents worthy of note. The routine prevailed everywhere, and to the satisfaction of all, perhaps, except those who long for the mild excitement of the Triennial Alumni Reunion years. But the "off" year has a special interest for those who have just prepared themselves for the work of the world, and by them it will always be remembered as the year of years in their life's calendar.

The graduating class numbers thirty-five, and is the largest, with the exception of last year's, in the history of the College. Names, addresses, and titles of theses are appended:-

Grace M. Clark, Junction City, "Moulds in the Kitchen."

George L. Clothier, Vera, "Fresh water Al-

Lilian C. Criner, Moundridge, "The Necessity of Union."

Harry Darnell, Ward, "Progress and the Farm-

William H. Edelblute, Keats, "Equity in Suffrage."

Elizabeth Edwards, Abergele, Wales, "The Home Dairy."

John Frost, Blue Rapids, "The Advantages of Our Studies."

Effie Gilstrap, Geuda Springs, "Sanitation and Life."

Ava Hamill, Olathe, "Gipsy Home-keeping." J. N. Harner, Green, "The Advantages and Disadvantages of the Farmer."

Loyall S. Harner, Leonardville, "What the Farmer Should Know and Be."

Charles P. Hartley, Manhattan, "Theory and Practice in Education." John W. Hartley, Manhattan, "Farm Manage-

James L. McDowell, Manhattan, "The Trans-

mission of Power by Belting." Robert A. McIlvaine, Maryville, Tennessee, "Strength by Overcoming."

Kate Oldham, Keats, "The General or the Special-Which?"

Daniel H. Otis, Topeka, "A New Nation." Ivan B. Parker, Hill City, "The Transforming Power of Science."

Warner S. Pope, Cawker City, "The Progress of Man."

Burton H. Pugh, Topeka, "Incentives to Literary Achievement."

Elias W. Reed, St. Clere, "Kansas Forestry." Robert S, Reed. Cedar Point, "The Farm of the Past and the Future."

Arthur D. Rice, Washington, "Government and Liberty."

Fred C. Sears, Tescott, "Families of Plants Most Valuable to Man." Birdie E. Secrest, Randolph, "The Ideal

Kitchen." May Secrest, Randolph, "Floriculture on the Farm.

Ruth Stokes, Garnett, "Hygiene in the Home.'

Henry W. Stone, Atchison, "Caste, Artificial and Natural."

Walter P. Tucker. Douglas, "Be a Politician." Alice Vail, Manhattan, "From Richardson to Howells."

Robert L. Wallis, Williamsburg, "Testing for Accuracy of Thermometers and Pyrometers.

Ora R. Wells, Irving, "A Green-house for the Ameteur." Daniel F. Wickman, Topeka, "Rise, Crowth,

and Trend of Our Nation." George W. Wildin, Melvern, "Graphic Representation of Stress and Work."

C. E. Yeoman, La Crosse, "The Importance of Veterinary Science."

LECTURE BEFORE THE LITERARY SOCIETIES.

The lecture on Friday evening by Rev. Robt. McIntyre was provided for by the four literary societies of the College. Mr. McIntyre's reputation as an orator had preceded him, and the people, in expecting a treat, were not disappointed. Taking as his subject, "Thirteen Hours in a Sunless World; or, A Visit to the Wyandotte Caverns," the speaker had the undivided attention of the audience for more than two hours in a vivid word picture of the grandeur, the beauties, the sombreness of these famous caverns of Southern Indiana.

BACCALAUREATE SERMON.

The Baccalaureate sermon was delivered by President Fairchild on Sunday afternoon, and is printed in full below:-

I. Corinthians, XIII: 9,-"For we know in part."

VIII: 2,-"If any man thinketh that he knoweth anything, he knoweth nothing yet as he ought to

The importance of knowledge is so intimately associated with a course of study whose object is knowledge, that a discourse upon such a theme on this preparation day for graduation may seem either unneeded or inappropriate. If the training of the course is complete, the nature and relations of knowledge have by this time become of familiar acquaintance. If the uncertainties of knowledge are to be emphasized just now, it seems like leading you by a difficult ascent to some mountain top for sublimity of view, only to tell you on reaching the summit that such a view is impossible because of perpetual clouds that embrace that summit. And yet it is at such a time as this, when a certain resting plane upon the steep ascent of the hill of science is reached, that we can best appreciate our limitations as well as our privileges in the realm of knowledge. With this idea, I have chosen for the suggestion of thoughts addressed to the Class of '92, a few words from the most learned, as well as the most humble, of divinely commissioned teachers, the Apostle Paul. The words are found in the first letter to the Corinthians, XIII.: 9-"For we know in part;" but if what I shall say be thought to have a wider import than was intended by these words, I quote from the same letter, VIII: 2-"If any man thinketh that he knoweth anything, he knoweth nothing yet as he ought to know."

Knowledge is usually thought of as the great body of discovered truth, accessible to human intelligence through the medium of understood records, or communicable from one mind to another by familiar signs. It is stored in great libraries, and in the memories of investigators, students, and thinkers everywhere. Of its amount and variety, we tell in the millions of volumes gathered into these libraries, or the whole roomfuls of catalogues which barely mention the subjects treated, or in the multitudes of publications by which the world proves true the saying of Solomon about the making of many books. A comparison of the huge volume of results of researches in science today with the seemingly meagre acquirement of even the previous generation, awakens gratitude for our good fortune,-if not an actual pride in belonging to such an age of advancement in knowledge. "Knowledge is power," has been the favorite maxium of each generation for some three hundred years, with the added comment that what our fathers lacked we

To be sure, we again and again fired the limits of present discovery where we least wish to find them, and turn to some easier task with a longing

look out over Newton's great ocean of undiscovered truth; but the activity of senses, with all the added implements of knowledge-getting, in agents and reagents, collections, scalpels, and microtomes, microscopes and telescopes, with no end of experiments, prevents more than a passing glance beyond the nearest unknown fact which we hope to be first to conquer for science. The grains of sand bounding truth's ocean may keep the whole race counting to eternity without our materially diminishing the great realm of unknown truth. In all the centuries of philosophic research whose records fill our ponderous libraries, how many principles of knowledge have been settled? Even the very records themselves have become objects of speculation rather than knowledge. The very Book of Books has been made a store-house of questions for endless comment, emphasizing the uncertainty rather than the certainty of knowledge.

In natural science, is it different? With all the garnered treasures from geological inquisitiveness as to that beginning when "God created the heavens and the earth," we only guess by millions of years instead of thousands, as our fathers did. Are we either nearer or farther from an exact knowledge of that grand origin of all things? Are not these millions of years in geologic ages of which we talk so easily a clear confession that the grand question of beginning evades knowledge?

Nearly two hundred years ago, when Newton announced his theories of gravity and light, the

poet Thompson wrote,

"Nature and Nature's laws lay hid in night, God said 'Let Newton be,' and all was light;" yet for all these years the world has been framing accounts of causes in succession, explanations of these grand phenomena, only to announce that all the universe is bound together in an ether more rigid than steel, yet without hindrance to bodies passing through it, and possessed of not one property that comes in contact with our senses. Indeed, the whole study of physics has made its wonderful progress in accumulation of facts connected with phenomena of gravity, sound, heat, light, and electricity, to sum all up in a grand conservation of an energy that is neither of these perceived activities of nature, but is forever either of them. The ether and the energy are but newer names for the unknown ocean, wide as the universe. Not one of the forms of energy appears to us except as motion of material nature. As we say "it rains," we must say in truth it acts in all

Chemistry has approached so rapidly in recent years toward the range of human accuracy as to border upon the so-called exact sciences. Chemists can by weight and measure combine and separate the elements of matter so as to have some power of prediction as to qualities to be developed. The exact calculations of mathematics find a place in their manipulations, and make the science one the best for training in accuracy of knowledge. Yet this rapid growth has depended upon the assumption of a fundamental atom, undiscoverable by any of the senses, immeasurable therefore, and yet the indivisible unit of chemical activity. It, too, is a convenient name for the unknown certainties. Like the x of our equations, it enables us to perform all the operations successfully, and we must be satisfied in the result, with the unknown essential uneliminated.

nature, without any comprehension of itself.

The study of plants and animals, since the modern improvement in vision through the microscope, and the wider reach of collections in the fauna and flora of the whole earth, has had a wonderful development. The manifold relationships of all organized beings and the minute elements of organized bodies have made new sciences almost necessary, and have employed the keenest thinkers of the age. Whole libraries have grown up around the thought of evolution, or succession, in the order of the universe from the dust to the man, as God has formed him. So many are the intricate facts brought into our experience during the past thirty vears, that portions of such study may now be grouped under the supposed more definite name, biology. But the the word life still covers the unknown entity, all pervasive, yet ever evasive, which distinguishes the organic from the inorganic

Are these facts discouraging, disheartening, to a student of the universe and his place in it?

I think not. The clear distinction made in our theories between the named known and the named unknown is the means of our using the knowledge we have. The unrestrained imagination builds air castles; the well-directed imagination, working within the limits of knowledge, builds solid structures of matter, of force, or of truth. Let the world's truth-seekers humbly acknowledge the "ways past finding out," and be willing to know in part that they may know at all.

So much for the grand range of possible knowledge, limited on every side by that which, in spite of our researches, transcends human powers of comprehension. There is still another view of human capacity for knowing, that should make us even more humble. This grows out of the nature of knowledge itself. What is it to know?

Knowing is an act of mind by which an individual being comprehends some relation between himself and his surroundings. I know by conscious experience that I stand in your presence. This present experience is linked by closest possible ties of continuous mental action since my childhood to all my past experience. Blot out suddenly all menta! trace of the thousands of intensely real acts of conscious perception preceding this moment's effort, and my comprehension of this relation would be almost absolutely nothing. I should be as simply innocent of knowledge as the helpless babe. With all my senses keen, I could see, hear, touch, taste, or smell but the merest elements of knowledge. This shows how each man's knowledge is a direct growth from his experience, and all knowledge is but the experience of individual conscious beings. One uses the experience of others only so far as he can interpret it by his own. As all expressions indicating ideas about color are meaningless to the blind, so to us are any ideas not touched by similar ideas of our own experience. The true appreciation of a picture, even, comes wholly from resemblance in light and shade and outline to realities experienced. A foreign language conveys no ideas in the common thoughts of life, only because its symbols have no association with our past experience of such thoughts. Just so, familiar words convey no meaning beyond that suggested and interpreted by previous associations. For this reason, the saying of Emerson is true, that we gain from books only what we put into them. Your thoughts and mine are a help to each other, because of a common ground of experience, with definite variations which may be assimilated because of similarity and contrast. Contact with men and with books makes rapidly increasing experience for us, when we have the basis of common acquaintance with things. I suspect this explains the universal opening of conversation between strangers by remarks upon the weather: men are sure of common comprehension in this.

From these facts it is easy to see that the limits of human knowledge can never be extended beyond the capacity of single individuals to experience, directly or indirectly, the facts of the universe. Each one of us is heir of all the ages just so far, and no farther, as his experience enenables him to interpret correctly the records of others' experience within his reach.

As the genuine pleasures of a man cannot be explained in any terms to a child, so not even a revelation by divine commission can express to finite comprehension the infinite range of the universe. The divinely inspired man can know the revelation only so far as his enlightened mind can experience the realities by which he is surrounded. To assume that any new utterance of truth can suddenly change the condition of knowledge in the world, is to ignore the nature of knowledge itself. As well might one suppose that a learned father can impart to his babe in the cradle the wide range of information that two-score years have brought him. All my knowledge, and all yours, must forever have the distinct imperfections that belong to our incomplete experience.

But we have abundant evidence every day of our own imperfect knowledge of the most common affairs.

Our senses are instruments of perception more or less true in their activity. The simplest judgments as to color, form, size, distance, which our trained eyes help us to make, must be corrected constantly by comparison with the judgment of others. The eye is a beautifully adjusted instrument, but its variations from perfection are infinite. Few persons find the vision of the two eyes alike, and the combination of the two is different from either alone. A slight variation in the shape of the eye-ball or a difference in the density of its several humors, or a change in the sensitiveness of the retina, varies the effect indefinitely, and limits the accuracy of sight. The other senses are equally subject to inequalities that affect the accuracy of use. These tools of perception we learn to trust with a cautious reservation as to their perfection and our accuracy in theiruse. "Seeing is believing" only to the inexperienced observer: the man of wider observation tests his sight, if possible, by many and varied trials.

When you think, again, that all the phenomena of sense are complex, unraveled by sorting the old from the new, and interpreting the combination by our habitual use of previous experiences, as I have described, you understand that every glance reveals chiefly what was known before, connected by habit with some simple sign now recognized. Any defect in previous experience is reproduced, magnified perhaps, in each new use of the senses, so that the limit of accurate observation by these organs of sense is reduced to minute proportions. All the world outside of us, and most of our individual peculiarities, are known only through the application of these variable senses, variously applied and interpreted. Can we trust them? Only in part. We know that we must provide for indefinite corrections with each new test of our powers, and added years of use make us only more cautious in the assertions of knowledge derived from direct use of the senses.

Such knowledge is called "positive," not because it is, beyond dispute, correct, but because, however incorrect it may be, we build the whole fabric of inference upon it. This sense perception is placed as the foundain of all science: it is the "place to stand" f producing all motion in the world of thought. The world of inquiry is always remodeling these foundations, and always will be, -sometimes at the expense of huge structures of supposed knowledge too unwieldy to fall without crushing many interests. The supposed warfare of science against common sense, against religious zeal, against philosophy, is largely explained by this necessary reconstruction of the very elements of knowledge. Conflicts between men of scientific research (bitter as family feuds) are sometimes due to mere difference in opportunity for growth in accurate use of the senses.

When conscious memory becomes an element of knowledge, all recognize the essential weakness of the cement by which the present and the past are united in our structure of knowledge. Students, of all persons, ought to have learned the uncertainty of memory. Yet most of our everyday acts assume an absolute trustworthiness of memory in some things. Your simple knowledge of my presence here involves the certainty of past experience recalled at this moment with definiteness. Some of you here today must recall facts observed months, perhaps years, since, to be able to assert the identity of those you greet

as friends.

More evasive still than memory is imagination, giving "to airy nothing a habitation and a name." Yet the certainty of knowledge in the wider range of study involving the relations of men and things, of forces and materials, of possible and impossible structures, of practicable and impracticable measures for public welfare, depends upon a vivid imagination. To insure success in our simplest plan, imagination must place in true relations all the minute elements of action, and furnish their adjustment. A building exists in the imagination of the architect, if he knows his business, to the minutest details before a hand is lifted in its construction. A new measure to secure the national welfare must be imagined, if possible, in all the details of its working before one can wisely, or even honestly, advocate it. All theories in science and all dogmas or doctrines in religion depend largely upon the clearness of imagination that presents facts in their possible relations. Even history gains its accuracy largely from the pictures formed about the principal events. You know how Alexander lived only by placing in distinct relations a thousand minute facts, or their semblance, which only imagination can furnish. How Jesus of Nazareth went about doing good is beautifully told in words; but your appreciation of those words depends upon the clearness with which imagination supplies the intricate complexity of relations implied in the language. No lexicon, no commentary, can do more than simply to strengthen imagination by new associations of experience, to be recombined in pictures of the soul. Fluctuations, in imagination, from truth stand

always in the way of perfect knowledge, and sometimes make the difference between the sane and the insane.

All these uncertain activities are concerned with the mere data of thinking—the multitude of things about which we think. When we come to combine these into thoughts and draw conclusions from them, who can estimate the fallacies to which men are subject? Your logic barely attempts to classify them, that you may be on your guard against the insidious entrance of error into all your calculations, computations, and constructions. All natural science rests in part upon the imperfect proof of incomplete comparison. All the generalizations of the natural sciences are subject to possible, nay, probable, corrections from further investigations of the facts.

I will not take your time to illustrate the multitude of ways in which our false reasoning vitiates knowledge. It would savor too much of classroom drill. But let me call to mind the fact that most of our daily thinking is partial reasoning, without even a statement of the exact truths from which we reason. A multitude of assumed principles have become a part of our growth in thought without our knowledge of their origin. Some belong to the ancestral bent of generations; some are imbibed with the temper of childhood's home; some are absorbed in contact with men and their books; some are assumed in pride of originality. All these unseen premises are dangerous foes to knowledge; but there is no way to free ourselves entirely from their effect. Our battle for truth in our own souls must be an un-

ending one.

Let me remind you, too, that much of so-called reasoning is backwards. We wish a certain statement to be true, and quickly find a troop of premises to draw it from. "The wish is father to the thought." Benjamin Franklin is credited with saying, "What is reasoning power given for if not to find good reasons for doing what we wish to do." Contend against this tendency as we may, there is always the bias from feelings jubilant or melancholy, from appetites, passions, and affections, too numerous to mention and too strong to measure. These are not merely temptations against duty, but actual interruptions in the train of knowledge-getting, blurring our senses and vitiating reason, our final test of truth. We have to find apology for acts of some of the world's best men in the fact that human intelligence is subject to so many weaknesses. Absolute truth revealed by infallible methods would have to reach each individual mind through all its imperfections of breeding, growth, and training, as well as the peculiar deformities of bodily senses and habitual activities.

Thus, from the nature of knowledge itself, each finite mind must be forever seeking a clearer view of facts, a more distinct analysis of parts, a more adequate comprehension of relations, and a more direct insight into the universe of truth. Only omniscient powers can know the whole. Even when we come to "know as we are known," it must be only as to facts into which we have

The conclusion drawn from these two grand facts,—the boundlessness of truth, and the weakness of human abilities,—must not be destructive to our enthusiasm for knowledge-getting. Insomuch as we see always before us better information and truer insight, our thirst for more must always remain unquenched. Each addition to our stock leads to a larger need, since the range of use is wider as we advance. But it should make every seeker humble. We learn, to know; but we know, only to learn still. Hence the genuinely honest thinker will grow less confident of his present stage of knowledge as he grows richer in experience of learning. The often repeated experience of outgrowing oneself is a constant lesson in humility. Only the tryo in science is sure that he knows; the man of experience believes, with room for more truth as he may grow able to receive it. Men learn to expect truer perceptions, broader generalizations, closer acquaintance with relations, and more exact reasoning. They ought, too, to be ready for release from some of the bias of feeling, appetite, passion, and affection. The rigid reign of habit in age, and the pride of years, have still to be met as an obstacle to knowledge after one has outgrown the weaknesses of youth; but in general, the aged make fewer professions of knowledge than the youth. An enthusiastic young professor, when asked if he would not put his teaching into a book, answered, "not till I am fifty years old, for I expect to know more." His elder replied, "If you wait for that reason till then, you will never publish; for you will be less positive at that age than now." Such experience is the common lot, and ought to be.

The applications of these truths are many. Not only in science and industry must each generation bring a revolution, almost, of thought and inquiry, but the progress of the world in self government, in knowledge of rights and duties and privileges and true happiness must forever grow. The needs of the age are reflected from the knowledge of the age, brought within the reach of the growing race. The danger is that it may not be an actual growth at all. To discard the old because it is old, without certainty that the new covers all the facts in the old, and more, is to fall into the most certain error—to go back to a new babyhood in knowledge. Instances of such failure in governmental experiments are plentiful in history. Peoples have sometimes gone back to barbarism, almost, to escape some of the errors of civilization. Those who would cure some disorders of our social order by anarchy are adopting such notions without knowledge. The progress of one life-time in securing political freedom in the midst of social order is more than can be told: another life-time is sure to do more, if thought can grow along the lines of knowledge. Human welfare is nearer being the object of ambition, as well as of thought, than ever before; but if ambition cuts the lines of growth upon the knowledge of the past, we may have to find our way from the beginning again, with habits, experience,

and knowledge all to gain.

Religion, in its fundamental facts of God's infinity and man's infinitessimal limits, God's supernal energy and man's dependence, God's authority and man's necessary subjection, no growth in knowledge can change. But the revelation of fatherly care and love beyond the ken of senses is in each individual life a growth, and a growth in the history of the race. The Christian inspiration of brotherly love, as the fulfilling of the law, came as the leaven to work salvation in the world and for the world, as soon as there was room in human development. Today the genuine leaven is working, in spite of foolish short cuts to millenial happiness, through the growth which God has planned. It seems as if with loving trust we might be feeling after truth in religion as we do in all the rest of life's experience. This Bible stands the test of such a search, since it gives in no mean measure the record of the ages in man's approach to God. It stands by every age of inquiry, stirring all minds to the search. It encourages study with promise of clearer insight for every individual soul. Are there doubts? These are stepping stones to make us reach further toward God. Doubts are the stimulant to faith, the cultivation of humility before the great I Am, past finding out. It is only the weakling who knows it all. The agnostic, who knows that we cannot know of God at all; and the bigot who knows that nothing of God's plan lies beyond his own knowledge, agree in the folly of assumption. It is the part of the truthseeker to be teachable before his God, expecting always to know in part, and knowing best, because he is still unsatisfied with his knowledge. He thinks not that he knows anything, but that he is coming to know all that God can teach his feeble comprehension: and found in the line of faithful duty up to the light granted him, he grows forever up from grace toward glory, from doubt through faith to confi-

Do you wish that it were otherwise? that knowledge complete were just about to be secured, and all end of search and research almost reached? May we not rather rejoice in the growth that God has assured to all the ages, and so sympathize in the saying of Malebranche, "If truth were a bird that I held captive in my hand, I would open my hand and let her fly that I might have the pleasure of catching her again?" Mere knowledge is not wisdom, but adaptation of knowledge to our immediate and coming work makes wisdom for each generation and for all time. It must always be our wisdom that we realize the relation of facts to our growth, and can find true enjoyment in forever learning, rather than in knowing. There is room in the universe for but one omniscient being. It cannot be you or I; but we can grow indefinitely into comprehension of the fact that his ways are higher than our ways, his thoughts higher than our thoughts. This we do by all the steps by which we tread the paths of his plans in creation, and by thinking his thoughts after him.

But do we not need a certainty of knowledge in

regard to outward duties, a Savior from sin and from the pangs of death, a future immortality, and the blessedness of heaven? Yes, we need just so much of certainty in knowledge of such things as to lead us into thirst for more. Outward duties are forever changing, and no revelation can give them for all time, still less for eternity. They are the applications of the law written upon the heart by which we recognize the nature of duty to men and to God, and by which we shall forever interpret the golden rule into new requirements with each new discovery of relations. We do need more emphasis upon these relations, more motives to obedience and loving kindness, such as the life and teachings and death of Jesus present. To be true subjects in the kingdom of heaven, we need the heavenly disposition, not infallible knowledge. The child can accept his place in God's universe as truly as the philosopher; more truly, unless the philosopher makes all his knowledge but the ground of faith in certainties which he may never know but in part. Except as you become as little children, humble in knowledge as well as in life, before the All-knowing Father, you cannot enter even the kingdom of truth, much less the kingdom of righteousness and

The lesson of our life is, after all, less one of knowledge than of faith. The limits of knowledge are wisely placed so near our present wants as always to compel us to step forward beyond knowledge, and always to entice us into confidence in the perpetual power and thought whose handiwork we are. Were it not so, the struggles and the falls would all be waste; but while we struggle on into humility and confidence and rest as willing sharers in God's work for us, the glorious happiness of true virtue is reached through

faith and hope and love.

To the Class of '92, I have these farewell words: Your course of study barely opens the doors of inquiry for you. Today you see a thousand unanswered questions where four years ago you saw one. You should have found with this widening view of unknown truth more need of faith, as well as more ground of faith, that the universe goes on toward God's good purpose through ignorance as well as knowledge. I trust, too, that you are willing to know more, with the assurance that each added truth will increase the range of question. Are you also ready to accept with unquestioning faith your position as subjects in the kingdom of God, thankful that his wisdom, and not yours, controls the limits of knowledge?

As you step into new relations with the active world, your humility in knowledge ought to be your chief means of usefulness. Your readiness to learn must be your proof of having already learned. Your individual maxim might well be, "We know in part," for it includes both the humility that means obedience to truth, and the faith that secures action even beyond knowledge, when the ground for belief is secured.

May your faith, grounded and established upon the little knowledge vouchsafed us in this brief passage between two unknown eternities, bring you safely to the goal of peace.

CLASS DAY.

At three o'clock Tuesday afternoon the chapel was well filled with invited guests of the Class of

The programme opened with a song by Misses Oldham, Stokes, Wells, and Vail, and Messrs. Clothier and Pugh.

Following prayer by President Fairchild, Miss Hamill presented the class history, which abounded in happy hits and apt allusions. A touching tribute was paid to the memory of Fred S. Little, the classmate who died on April 7th.

Mr. Tucker, in the class oration, said "Be a Politician." By politician was meant not that disreputable follower of clans, the "ward heeler," not the vote-buyer, nor yet the partisan; but the man who thinks and acts for himself; who casts ignorance, prejudice, and passion aside, and gives honest, intelligent consideration to the important questions of the time. Every true citizen is a politician.

A piano solo, "Over There," by Miss Hamill,

was well received.

Mr. John W. Hartley, in his toast to the "'Ten' of '92"-the girls-told some truths about them in a manly fashion, and some with a well-assumed air of truthfulness. He paid tribute to their intelligence, honesty, and beauty, and concluded with the words, "The

'Ten' of '92: We shall always remember their smiling faces and jovial disposition, and it is our wish that they live long, useful, and happy lives."

The response, by Miss Wells, was in a felicitous vein, tinged with the merest shade of sarcasm, well suited to the occasion. She admitted that the compliments were worthily bestowed, and in a spirited manner defended the companions of her sex in the imputations cast upon them by the representative of the "boys" of the class.

Mr. Sears, in the Class Poem, recited a few of the many joys and multitudinous sorrows that

marked the years of student life.

"Memories," an original quartette, composed by Mr. Pugh, the committee on music, and set to music by Prof. Brown, was sung by Miss Vail and Messrs. Tucker, Clothier, and Pugh; Miss Hamill, pianist. The sentiments expressed in this song found an echo in the heart of every member of the Class.

Mr. Yeoman, the Class Prophet, writing under date of A. D. 1900, with true Bellamystic ideas, placed the various members of the Class in the

most absurd positions imaginable.

The planting of the ivy being next in order, the programme was completed in front of the building. Miss Vail read the "Ivy Poem," and Mr. Clothier, after planting the vine under the north window of the President's room, using a nickleplated and ribbon-bedecked spade in the operation, delivered the "Spade Oration." He enumerated some of the good things done by the class, and in bequeathing the spade to the Third-year Class, to be handed down from class to class in turn, he advised them to pattern after the Seniors.

Mr. E. C. Abbott, in behalf of the Third-years, responded. While he admitted that, in a general way, his classmates could not go far wrong in following in the footsteps of their predecessors, there were nevertheless some by-ways in which the tracks of the haughty Seniors were to be seen; and these, he thought, it would be the part of wisdom to avoid. He promised, however, that the spade should be well cared for and transmitted to the next lower class in the same spirit of goodwill that prompted the gift from the Class of '92.

After the singing of "America," in which the audience joined, Miss May Secrest delivered the Valedictory in words that served to cement yet closer the ties that bind the Class. In beautiful and fitting language she clearly pointed out the path of duty which each should tread to reach the goal of his ambition, and warned against any mistaken notions of what that ambition should be.

THE ANNUAL ADDRESS.

"Success" was a practical talk on Tuesday evening by Ex-Governor Luce, of Michigan. To be successful, one must accumulate knowledge instead of riches; form plans and stick to them; be industrious; be a true politician. The address will soon appear in full in these columns.

COMMENCEMENT DAY

Found the Chapel filled, as usual, to overflowin g with visitors from far and near. Few mere curiosity seekers were there; the room was filled chiefly with friends of the Class who took advantage of the last opportunity to see them assembled in a body.

The exercises opened at ten o'clock with an overture by the College Orchestra, after which Prof. J. H. Lee, of St. John's Military Academy,

Salina, offered prayer.

The speakers we:e chosen by lot to represent the Class in orations on Commencement Day, as follows: L. C. Criner, H. A. Darnell, Effie Gilstrap, C. P. Hartley, R. A. McIlvaine, D. H. Otis, I. B. Parker, and R. S. Reed.

The programme proceeded without interruption, and was concluded at half-past twelve o'clock by the presentation of diplomas.

President Fairchild's last words to the Class were fraught with good advice tendered by one of whose interest in the welfare of those who have so long been under his charge there can be no question.

After the exercises, the Reception Room was visited, and here the members of the Class found many tokens of friendship in flowers, books, pictures, and other presents. The visitors evidently found almost as much of pleasure in examining the presents as did the recipients themselves, and late into the day the tables were surrounded by interested groups.

At one o'clock the people were seated in Armory Hall before tables well filled with good things provided by the ladies of the Christian Church,

who had, for the time being, converted the room into a vast dining-room and kitchen, and, later in the day, into an ice-cream parlor. The savage onslaught on both dinner and refreshments testified to the culinary skill of the ladies.

THE CLASS OF '91.

An enthusiastic and pleasant meeting of the Class of '91 was held Wednesday morning at 9 o'clock. President Skinner presided. Twentyfive members of the Class were present, and spoke of the pleasure and success attending the work of their first year out of college. Absent members were not forgotten, and arrangements were made for the publication of a class-letter at at early date. H. B. Gilstrap was elected Corresponding Secretary, some committees were appointed, and the Class adjourned, still saying "We want the earth."

THE MILITARY DRILL.

The day's entertainment concluded with the drill on the campus by the College Cadets, who went through the evolutions prescribed by the Tactics with credit to both themselves and their instructor. Volley and platoon firing and the boom of the cannon were interesting features to all save the timid.

THE ALUMNI MEETING.

At four o'clock Wednesday afternoon the graduates gathered for the annual election of officers, which resulted as follows:-

S. W. Williston, '72, President. S. C. Mason, '90, Vice-President. Jennie M. Tunnell, '89, Secretary. M. A. Carlton, '87, Treasurer.

Arrangements were made for music to intersperse the somewhat dry business routine in future meetings; and E. Ada Little, '86, was made Chairman of Committee on Music.

The graduates present made announcement of occupations-past, present, and future-as fol-

67.—Emma L. Haines Bowen, Manhattan, is a model housewife.

'79.-Nellie Sawyer Kedzie, Manhattan, will as in years past, teach the young ladies of this College how to cook.

'77.-George H. Failyer renews his youth in the pursuit of chemistry at this College. Although a teacher of ripe experience, he learns

something new every day.

is at home in Manhattan.

'83.-William Griffing is a successful farmer and fruit-grower near Manhattan. Phœbe E. Haines is at home to spend her vacation. She wil return to her duties as Professor of Industrial Art in the New Mexico Agricultural College at Las Cruces in September. J. T. Willard is devoted to chemistry, of which he is Assistant Pro-

'86.-E. Ada Little is Assistant in Sewing at her alma mater. Minnie Reed is pursuing postgraduate work in Botany and Domestic Economy. '87.—C. M. Breese, as Assistant Chemist of the College, finds work suited to his tastes. M. A. Carleton is Assistant in Botany in the Experiment Station. F. B. Elliot assists his father in conducting "the oldest real estate and insurance agency in Manhattan." F. A. Marlatt is in the service of the Experiment Station as Assistant Entomologist. W. J. McLaughlin is the successful Superintendent of the Bern Schools. Mary E. Moses

'88.-D. G. Fairchild is well pleased with his duties as Assistant in the Division of Vegetable Pathology, Department of Agriculture, Washington, D. C. He will spend the summer in Geneva, N. Y., on department business. He is also Secretary of the Botanical Club of the American Association for the Advancement of Science. H. E. Robb finds his time fully occupied by the duties of Surveyor of Greenwood County. His address is Eureka.

'89 .- J. W. Bayles teaches in the winter and farms on the home place in the summer. J. H. Criswell takes his farming "straight." C. E. Freeman was Principal of the Shorey school, North Topeka, last year; but plans to pursue special work this coming year in Mechanics and Physics at his alma mater. J. S. Hazen is something of a "globe trotter." Since leaving College the U. S. Signal Service folks have sent him to Florida, North Carolina, Tennessee, Montana, and recently transferred him to Des Moines, Iowa. A. B. Kimball teaches and farms by turns. Mary C. Lee teaches near Manhattan. W. H. Olin returns to Osborne next year as Superintendent of Schools. It is his ambition to make his course of

study second to none in the State, and he will spend the vacation months in revising it. He will meanwhile work in agriculture and botany for the second degree. E. M. Paddleford is Principal of the Riley schools. Jennie C. Tunnell will resign her place as Assistant Librarian at the College on Sebtember 1st to become Assistant in the Manhattan High School. R. U. Waldraven divides his time between teaching and farming at Parallel, Kansas. H. S. Willard is Manhattan's

'90.—G. W. Dewey is a "picture taker" of no mean order in his father's gallery. S. C. Harner hardly knows which he likes best-teaching or farming. He lives at Lasita, Kansas. Bertha S. Kimball teaches near home, and employs spare hours in making entomological drawings for the Horticultural Department. Harriet E. Knipe is at home in Manhattan. Nellie P. Little is still employed as teacher in the Manhattan schools. S. C. Mason is promoted September 1st next to Assistant Professor of Horticulture in this College. Julia R. Pearce is Clerk in the Executive office here. E. C. Pfuetze is Superintendent of the Manhattan waterworks. Emma Secrest teaches at Randolph. Mary B. Senn is taking a postgraduate course in domestic economy and chem-

'or.-W. A. Anderson is a stenographer in Topeka. W. S. Arbuthnot is a practical veterinarian at Cuba, Kansas. H. W. Avery has been traveling in sale of stock on the Pacific Coast, but hereafter, while putting in practice his agricultural training, will find time to devote to the study of law at Wakefield. J. N. Bridgman has been pursuing post-graduate studies at the College the past year. R. J. Brock is reading law in the office of Hon. Jno. E. Hessin, Manhattan. F. C. Burtis is Assistant in Agriculture at the College. C. A. Campbell is employed in the Horticultural Department of the Experiment Station here, after a term of teaching. S. N. Chaffee varies his work from teaching to farming. Callie Conwell pursued post-graduate studies, and did faithful work as a teacher during the winter. Christine M. Corlett has been preparing for a teacher, and Mary E. Cottrell has been teaching. P. S. Creager succeeds F. A. Waugh as agricultural editor of the Kansas Capital. Pearl Dow finds pleasant work as clerk in the post-office. H. B. Gilstrap edits the News at Chandler, Oklahoma. Delpha M. Hoop, Mayme A. Houghton, and W. W. Hutto have found in teaching an occupation both lucrative and interesting. The latter will conduct a Teachers' Institute at Stillwater, Oklahoma, this summer. Frank M. Linscott, with D. V. S. attached to his name, finds a location at St. Joseph, Mo. Bessie B. Little pursues post-graduate studies in Household Economy and Drawing. Nellie E. McDonald has been teaching. Madeleine W. Milner is at home. D. C. Mc-Dowell occupies a clerical position in the E. B. Purcell Mercantile Co.'s store while studying for the ministry. P. C. Milner is employed in the Santa Fe R. R. office, at Topeka. Hattie M. Noves is a teacher. Lottie J. Short has been an assistant in the Department of Household Economy while pursuing post-graduate studies. Ben Skinner, Caroline S. Stingley, Lillian A. St. John, and A O. Wright, as teachers, have made the year pass very pleasantly. S. L. Van Blarcom is a railroad mail-agent with headquarters at Kansas City, Kansas. Bertha Winchip is performing home duties.

THE MUSICAL PROGRAMME.

The music, under the direction of Prof. Brown, elicited many compliments. The programme for the week is appended:-FRIDAY EVENING.

SUNDAY.

TUESDAY EVENING.

..... College Cadet Band. Selection, "Dazzler March" College (Tuba Solo with accompaniment
W. E. Smith and College Cadet Band. College Orchestra.

WEDNESDAY.

Overture, "May Festival" College Orchestra.
Selection. "Philomela Waltzes" College Orchestra.
Solo, Piano' "Old Black Joe" Bailey.

Miss Olive Wilson.
Opera Chorus, "The Morning Fre hly Breaking" Auber.

College Glee Club.
Selection, "Jolly Harvesters" College Orchestra.

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Rills against the College should be presented monthly, and, when audied, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. Applications for extension of time on land contracts should be sent to the Secretary of the Board of Regents, at Manhattan.

The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Mayo, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors

ments of study of work, may be addressed to the Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed through the Secretary.

COLLEGE LIFE AND COLLEGE FADS.

BY PRES. GEO. T. FAIRCHILD.

N observer of students in their annual growth A from boyishness and girlishness to manliness and womanliness is often troubled by the hindrances to true development found in the crowds, cliques, fancies, and fads, seemingly inseparable from college methods. It sometimes seems to parents that most of the energy of their children at college is expended in the merest incidents of boarding club, society, class meetings, athletics, base-ball, foot-ball, glee club, oratorical contest, cane-rush, flag-stealing, and the "yell." Such people are prone to pronounce the system pernicious, and charge all failures in development to college methods.

The fact that college news always emphasizes this side of affairs seems to bear out the conclusion that students are bent chiefly upon amusement, and that the loudest noise or the rudest sport is most attractive. People forget that among students, as everywhere else, what is unusual or occasional attracts attention. In fact, the news deals chiefly with fads, while college life flows on in an unnoticed stream of power.

College life is made up of numerous forces stimulating and determining growth. The lessons to be learned from books and laboratory practice, from lectures and field researches, stand first, but not always chief, in means of growth. The student's thoughts rub against the thoughts of an interested and interesting teacher-student of larger growth-to stimulate both to better understanding of themselves. Classmates discuss in hot debate the questions of the day on social wrongs, political methods, religious faith, and public welfare. Nowhere is there a more intense development of patriotic fervor or philanthropic zeal, or of genuine devotion to liberty, than among a body of students from eighteen to twenty-four years of age, inspired by the spirit of in quiry into the whys and wherefores of existence.

Moreover, such discussions are far from being shallow. A callow youth often assumes the dogmatic air of a doctor, ready to cure all the ills of society by enactment of a law; but nowhere will he find sharper criticism or keener analysis of his callow ideas than right among his daily associates. Nothing more delights a body of students than to see a self-conscious prig of their number suddenly tripped from his footing of fallacies by one of his comrades. Without a touch of bitterness, such cronies pierce each other's armor of self-conceit with true sarcasm. The saying, "What one does not think of, another will," fits here as well as in mischief-making, so that few important questions fail of extended analysis and distinct debate. I have listened to debates in legislative halls in many respects interior to such as every week engage the thoughts of students in

Student companionship, too, is as genuine as any in life. I venture the statement that nine out of ten persons who have forty years of life to look back upon will, if asked to name their most intimate and actual comradeship outside of family relations, turn back to college days. In these close relations young people learn more of human nature than in most business relations. Even in the mingling of young men and young women at daily tasks there is truer comprehension of womanly and manly characteristics than in any other society. The flirtations and follies of young people in such surroundings are less infatuating than even in the most quiet country life.

Student life brings together a wider range of

ideas than young people meet with in any other surrounding. Coming as they do from every calling, from widely separated homes, and from homes of every grade of wealth and refinement, no two persons have had the same experience. But in college all are brought together into a common experience that embraces the whole range. False pride raises no such strong barriers between rich and poor, rude and polished, as in ordinary life. Democracy of life, as well as of thought, rules in college, and all are sharers in each others' experience.

Now, as interruptions to this generous flow of college life-enlarging, polishing, refining, stimulating, and strengthening each individual—are the college fads so prominent in college news. Some of them are very limited in their actions, like the class hat, the class cane, or the class fan, bought in a spirit of excitement, worn on a half-dozen occasions, and treasured afterwards as a memento of childishness outgrown. Others are traditional in certain colleges, like the rushes, the class-room tricks, and most of the so-called hazing, and often are transported from one college to another, for no other reason than that they have been done by predecessors. Barbarous as these seem when distinctly scrutinized, they are usually an evidence of mere recklessness rather than of brutality, and can be controlled by uniform firmness on the part of authority. Traditional evidence of superior tact on the part of students of other years in escaping the penalty of such freaks is the chief incentive for their continuance.

Another class of fads, quite as disturbing to the true college life, and less closely incidental to the gathering of numbers, is the growth of recent years in the spirit of rivalry for public attention. In the craze for public contests, athletic and intellectual, there is danger to the true life of the college student. The tricks of the ball-ground are too prone to be like those of the race-course, long planned, and carried out for mercenary ends. The excitement of such contests is aroused over, not the actual superiority of worth, but the eclat of supremacy. Oratorical power has seldom, if ever, been cultivated by the glare and blare of public contests, where the end to be served is not truth, but conquest; and the effect is chiefly vánity, the strongest obstacle to genuine persuasiveness in speaking. Such fads are the more disastrous to college life because they reach the main body of students with their clamor. Too often for weeks together you hear almost no conversation that does not turn upon the contestant forces in this game or that meeting. Even the religious societies catch the spirit, and measure their worth by the size of their delegation or the volume of their "yell."

The fact still remains, however, that these are mere fads, to be outgrown as others have been, and are not the main strength of college life. If the college authorities, the people, and the press, would think of them as they are-mere excresences-the college would be stronger, the people more in sympathy with college growth, and the students richer in the the training of genuine college life.

Does a man wish to determine with any degree of certainty whether the world is progressing, let him ask himself the question, is it any the better for his living in it? Are his children any better educated than he was at the same age? Are they better fitted for the battle of life than he was? Will he deliver to them on passing away a better inheritance than he received at the decease of his own father? This life is pretty much what we make it. How is it with you, reader?-Colman's Rural World.

EX-PRESIDENT JOHN A. ANDERSON.

At the funeral of Mr. Anderson in Junction City, on June 6th, Pres. Fairchild was unexpectedly called upon for remarks, and paid the following tribute to his college work, as reported for the Nationalist:—

My Friends:—I hesitate to address you, who knew Mr. Anderson so much better than I, upon any phase of his life and character. I wish heartily that I could have the privilege with you of hearing from the lips of one who shared in his congressional life the story of that comradeship. But recognizing how fitting it is that one who has "entered into his labors," as I have, should drop upon his coffin some tribute of memories, I have

consented to speak.

My first introduction to Mr. Anderson was in the winter of 1873-4, when upon that tour of inquiry into college work referred to by Dr. Milner, he called at the Michigan Agricultural College, over which I was temporarily presiding. It was Sunday morning, he having arrived in town late the evening before. After brief words of self-introduction and greeting, I handed him the letters which had anticipated his coming. He shifted them in his hand, selected one of apparent importance, and read. As I sat by him in my study that morning, while he read, I thought I read the man. I saw the veins swelling, the brows knit, the eyes flashing, the lips stern, the cheeks puffed out, the muscles tense, and knew he was ready for conquest. Not a lisp did he utter of the contents of that letter, but with regrets that important business made it necessary for him to take the first train for home, he left; and yet I knew that he was going to a conquest. I have since learned that the letter called him to a conflict in the State Legislature for his position, and he won in the conflict.

My knowledge since of Mr. Anderson's work has confirmed the impression of that first meeting. He seemed the man for conquests where difficulties seemed supreme. He saw the need of results, and went through obstacles unflinchingly, whether those obstacles were things or men. His work at the Kansas State Agricultural College

There was a revolution in purpose and methods to be made; and against the wishes of Faculty, students, and neighbors, against the traditions of educational circles, and of years, he made it. There were industrial features to be introduced, and they came without awaiting facilities. The first provision for the industrial training for young women was in a sewing machine on the corner of the rostrum of the Chapel; the carpenter shop

printing were established in corners of rooms already appropriated.

Again, the question of absorption of this College into the State University at Lawrence was agitated. Neighboring States had made the land grant a portion of the endowment of the State University without provision for a separate institution for the industries. He saw the dangers, met the force of agitation at once, and settled the

was begun in a shanty; the telegraph and the

question for all time.

The College suffered in its distance from the city, depriving it of facilities for room and board for students. Yet on the hill was a building of fair proportions, the pride of multitudes who had contributed to its erection, while on the new farm just outside the city, where everybody knew the College ought sometime to be, there was only a barn. Mr. Anderson moved the College into the barn,—turned the cattle out and turned the students in, and the College was located where the buildings must come to the College.

Mr. Anderson cared little for details; an end in view must be accomplished in spite of details or without them, and be pushed for the end. Such a man was needed in such emergencies,—one who could let the grand object outweigh all objections, and stride on to the conquest.

Another peculiarity I have found that when the conquest was made, apparent interest in that phase of progress was gone; with him bygones were actually bygones. I have never had an hour's conference with Mr. Anderson in all these thirteen years of acquaintance since the work fell upon my shoulders as to either the past, the present, or the future of the College. In any reference to his years of struggle he has never mentioned an individual or a fact that might have been a cause of bitterness to him. He was only glad that the struggle was over.

The conquest made was genuine. In all the

growth of the College to triple, quadruple, and quintuple its proportions in his day, there has been no prospect of return to the old regime. Even his opponents have accepted the results. One nearly related to the former administration said to me: "I want to tell you that although the College is not what we planned and wanted, I believe it is a good deal larger institution and better for the State than we planned." I am glad to testify here in the presence of Mr. Anderson's friends that his work still stands. Not one of the peculiar features in shops and other industrial training, has, until within the past year, been displaced; they have grown.

That he is honored at the College still is evidenced by the part which nearly four hundred students took yesterday in reception of his remains, and with all the thousands of students yet to come his name will stand revered. As we sit beneath the vines which he planted, and rejoice in the shade of the trees which he cherished, we shall thank the man whose ability in conquest established for the College its existence and its

GOOD FARMING

policy.

Dr. Frank Richardson, pastor of the Main Street M. E. Church, South, Bristol, Tenn., publishes in the *Holston Methodist*, an article on farming from which we make the following extracts:—

Every farmer ought to be a politician. He ought to acquaint himself with the men and measures at the front in the political arena, so as to know how to vote. He had better be careful about receiving his ideas and impressions secondhand. The political dead-beat thinks the farmer is his lawful prey. He has no money, and he knows the other fellow will buy the purchasable votes, and he relies, therefore, on pulling the wool over the honest farmer's eyes. Let the farmer study the political situation, and be prepared to vote or accept an office, if his neighbors should suggest it. But don't be a professional politician, sitting at the street corners in town or at the cross-roads store whittling sticks and talking politics. Nothing in that. Whenever a man takes up politics as a profession everything else with him goes to the dogs, and he frequently

goes in the same direction.

Practice book-farming. Farming is a science, broad and intricate. To know the adaption of soil, the influence of climate, and the effect of the various modes of cultivation here and there, and on this and that, requires much common sense, and thorough and patient investigation. Farmers, like others in other callings, are made wise by the experience of their fellows in the past and in the present. Read good books on agriculture, and take one or more agricultural periodicals. Look and read and listen and talk and learn all you can about farming. But, mark you, books won't run a farm. Some of the poorest physicians and lawyers and preachers you ever knew had great libraries to which they were always pointing with a justifiable pride. These libraries were good tools, but their poor, simple owners did not know how to use them. Traveling once through a good agricultural section, we came upon a naturally good farm all run down. It looked like it might have been the home of some poor, penniless, old widow lady for a quarter of a century. "Whose farm is that?" we asked our traveling companion. "That belongs to Colonel So-and-so." Now we knew Colonel So-and-so as a contributor to agricultural papers and a speaker at the Farmer's Conventions. "Too much brain and too little brawn," we said. Common sense and muscle is the victorious combination on a farm.

Use all the improved machinery you need on the farm, but don't buy every so-called labor-saving machine that comes along. Keep machinery in good condition. When a wagon, mowing-machine, or other farm implement begins to need frequent repairs, throw it away and buy a new one. It will save time and money. Don't keep any but the best stock on the farm. Fix it definitely in your mind what style of a horse, cow, or other animal you want to raise on your farm, and make your arrangements accordingly. Don't keep any more stock on your farm than you can keep well. It does not take any more food to keep a tat horse fat than a poor one alive. Don't keep any mature animal on the farm that you do not need.

Improve your farm. No farming pays that |

does not improve the farm. Besides, the money you put in the farm is safe, if the title is good. That bank won't break, or that boom burst. Beautify your homes. It don't cost much, and it pays better than any other investment. Plant some vines, shrubs, and trees; prepare a pit or greenhouse for flowers. Your children will be purer, better, and more happy for being raised in the midst of tasteful and beautiful environments. Make home a happy place, and cultivate in the hearts of your children a love of home. Don't be always grumbling about the hardships of farm life, until you drive your children away on a wildcat chase after wealth that will wreck their characters and bring your gray hairs in sorrow to the grave.

God bless you, my farmer friend. The conservative influences that are to save the country from wreck by the unhealthy excitement and wild speculations of this age are in the rural homes of the land. Acquit yourself like a man, and preserve and improve the fair heritage God has given

you.

TOO MANY ORGANIZATIONS.

The report from a much-organized Indiana county, printed in the "Organize and Co-operate" department of Farm and Home, is a pen picture of the situation that exists in a great many sections of the country. There are not too many organizations for farmers if they work in different fields, but it is too bad for so much energy to be wasted in half a dozen different orders in the same locality. The trouble is mainly due to three causes: First, the willingness of farmers to take up with any new society that promises greater benefits than existing orders; second, to organizers who work simply for their fees; and, third, to those people who favor a new society simply as another chance to get into office. Aside from these causes, however, the fundamental trouble lies with the membership as a whole. They join the alliance, grange, F. M. B. A., or similar orders, under the impression that this act and the payment of a small due is going to reform society and bring them great returns. The large majority put in neither sufficient work nor money to hold their interest through thick and thin, while the business operations of the different societies are too often but loosely conducted or the business agents hampered by lack of capital. The situation would be immensely improved if all attempts at co-operation in buying and selling were divorced from existing secret societies and put on a hard-pan business basis by subscriptions to the capital stock of legal corporations instituted under the statutes providing for co-operative associations. This would enable the actual business to be done in a business-like manner, leaving the different societies to carry out their educational, political, social, and other reforms as suit their fancy. A wide investigation emphasizes the fact that the two kinds of work do not go well together. An association through which the members wish to co-operate in financial matters should have a definite legal status and accountability for each official member, which cannot be expected in voluntary associations like the grange, alliance, etc. Success in business and politics is won by hard work, not by mere talk. Nor does the thrifty citizen sacrifice his own business to attend to politics. Some farmers are now doing this who, in former years, went to the other extreme and never attended a caucus. Both individuals and organizations should strive at the golden mean in all these things .- Farm and Home.

GENERAL DUTIES AND PRIVILEGES.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. Noother rules of personal conduct are announced. Classes are in session every week day except Saturdays, and no student may be absent without excuse. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance, scholarship, and deportment shows to each student his standing in the College.

Chapel exercises occupy fifteen minutes before the meeting of classes each morning, and unnecessary absence from them is noted in the grades.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the third- and fourth year classes. Once a week all the classes meet, in their class rooms, for exercise in elocution and correct expression.

There are four prosperous literary societies, two of them of many years' standing. All meet weekly, in rooms set apart for their use. The Alpha Beta, open to both sexes, and the Ionian, for ladies, meet Friday afternoon. The Webster and the Hamilton admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the last Friday evening of each month.

CALENDAR.

1891-92. Fall Term-September 10th to December 18th Winter Term-January 5th to March 25th. Spring Term-March 28th to June 8th. June 8th, Commencement.

1892 - 93. Fall Term-September 8th to December 16th

TO SCHOOL OFFICERS.

The College Loan Commissioner has funds to invest in school disrict bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioners and the State Agricultural College. Address T. P. Moore, Loan Commissioner, Holton Kan.

LOCAL MATTERS.

"He who knows little, and knows it, knows much."—Class motto.

There are at present good prospects for a heavy crop of raspberries.

The industrial departments made their usual displays of student work last week.

The greenhouse fuschias were in their brightest garb on Wednesday, and attracted hosts of visit-

A true night-blooming cereus in the greenhouse is in bud, and is expected to open in a day or two.

The ladies of the Christian Church report \$175 as the net proceeds of the Commencement Day dinner.

The good things said about the College by the visitors during Commencement week would fill the paper.

About a dozen members of the Class of '92 are still at the College-some finishing jobs of work on their own account, and others employed by the institution.

A heavy crop of hay has just been taken from the meadow southeast of the Main Building. It is chiefly orchard grass and red clover, the former being in many places five feet in height.

Prof. Cowgill, of the Kansas Farmer, visited the scene of his former labors on Commencement Day, and occupied a seat on the Chapel rostrum. The Farmer shows good use of its opportunities.

Probably the last picking of strawberries was made yesterday. The dry weather cuts the crop short and impairs the flavor of the fruit. Had the vines not been heavily mulched and twice irrigated, the yield would have been much lighter.

The Botanical Department is investigating the ash rust which has just made its appearance on the trees in the College grounds. The rust is apparently quite destructive, attacking both twigs and leaves, the former, as a rule, being greatly

Mr. Marlatt has some interesting views of the artillery as seen in operation on Commencement Day. The air is shown fairly rent in twain, and the pictures form an interesting study to those who are curious to see that much talked of "hole in the atmosphere."

Peaches will be a luxury in the College grounds as well as elsewhere this season, the cold, wet season at time of blooming preventing fertilization. It is estimated that the crop of both peaches and apples will fall at least seventy-five per cent short of last year.

GR ADUATES AND STUDENTS.

Louise Reed, '91, writes from Topeka, looking for possible work at the College.

M. F. Hulett, of the Class of '93, wrote an interesting report of Commencement for the Mer-

Walter Peckham, a former student, was married June 1st to Miss Jessie Brown, of Clay Center.

C. O. Whitford, student in 1888-9, is a telegraph operator at Walton, Kansas, on the Santa Fe Railway.

Jacob Lund, '83, is engineer of the Capital Iron Works at Topeka, with address at 306 Jefferson Street.

Florine Secrest, '89, sends the announcement of Commencement at the California State Normal School, San Jose, with her name in the list of

D. G. Fairchild, '88, left on Thursday for the East to resume his labors in the Division of Vegetable Pathology, Department of Agriculture, at Geneva, New York.

W. J. McLaughlin, '87, is proprietor and publisher of the Press, in Bera, Nemaha County.

D. G. Robertson, '86, delivered the memorial address on Decoration Day at Alton, Kansas. He enjoys the privilege of living in a home of his own at Osborne.

Anna I. McConnell, student in 1888-9, was married on Wednesday, March 18th, to Chas. Horsefield. The young folks are at home at 4021 Independence Avenue, Kansas City, Mo.

H. V. Rudy, '91, sends from Fresno, Calif., regrets that he could not share in Commencement festivities. He is interested in the problem of marketing California fruits without so many intermediate agencies.

J. A. Davis, Second-year in 1889-90, and Miss Octavia Woody, student at the State Normal in 1888, were married June 2nd at the bride's home, at Rose Hill, Kansas. They will settle within a few days at Sterling, Kansas, where Mr. Davis is telegraph operator.

Gertrude Coburn, '91, writes that she is to return to Menomonie, Wis., next year with increased salary. Manual training is being pushed in Menomonie schools, she says, and the outlook is encouraging. Miss Coburn will be at home in Kansas City, Kansas, after June 15th.

BOARD MEETING.

At the meeting of the Board of Regents, June 7th and 8th, all the members were present.

The Secretary reported action taken under direction of the Board at its previous meeting, and also upon events since that meeting.

Upon motion of Regent Forsyth, a committee, consisting of Regents Fairchild, Finley, and Kelley, and Professors Failyer and Walters, was appointed to draft resolutions in reference to the death of Hon. John A. Anderson, ex-President of the College, to be spread upon the records of the Board.

The Special Committee appointed to receive the bond of Joshua Wheeler, Treasurer elect, reported the approval of that bond, and upon motion the report was accepted and adopted.

The Special Committee appointed to settle with the out-going Treasurer, reported a transfer of funds from ex-Treasurer Hessin to Treasurer Wheeler upon the basis of the books of the Secretary, assuming that all vouchers drawn upon the Treasurer had been paid, and leaving the auditing of vouchers for the present meeting of the Board. The report was referred to the Finance Committee for examination of the records and the vouch-

President Fairchild was authorized to insure, as required by the Secretary of the War Department, all ordnance and ordnance stores belonging to the United States in the keeping of the College; and also to meet the expenses connected with the address of Gov. Luce at the annual Commencement.

With reference to contracts for lands in 12-10-5, the Secretary was directed to take no further action in cancellation, the time for settlement being extended to September, 1892.

The bond of T. P. Moore, Loan Commissioner, having been presented, was accepted by the

A communication from the Secretary of the Mechanical Engineering Teachers' Association having been laid before the Board, it was voted that this Association stand upon the same footing with other teachers' associations with reference to the expenses of persons attending.

The Secretary reported that Hon. Joshua Wheeler, Treasurer, has filed with him notice that Mr. Geo. S. Murphy, of Manhattan, is authorized to act as his deputy.

President Fairchild was directed by vote to share in such of the teachers' associations of Kansas as his duties would permit him to attend, or to furnish a substitute, at expense of the College.

It was voted that the usual special editions of the INDUSTRIALIST, 10,000 copies, shall be issued the last of June, and about the 20th of August, and that an extra supplement for the Board of Directors of the Kansas Exhibit at the Columbian Exposition be furnished to that Board at cost.

The recommendation of the Faculty as to the thirty-five persons completing the course at this time that the degree of Bachelor of Science be conferred was adopted, and the Board proceeded to sign diplomas.

The Committee on Farm Management, having recommended the leasing of the Williston place 25 acres, for another year; and an expenditure not to exceed \$300 in paving the barn yard; and an exchange of breeding stock among the swine, the several recommendations were adopted.

Upon motion of Regent Chaffee, the following

resolution was passed:-

"WHEREAS, the services of Ex-Governor Luce, of the State of Michigan, have been secured for the annual address, and

"WHEREAS, he did deliver on Tuesday evening June 7th, 1892, a most practical, earnest, and eloquent address; therefore,

"Resolved, that the thanks of this Board of Regents are due, and are hereby tendered to Governor Luce for his presence and inspiring services."

Mr. James Rain, having expressed his determination to enter another profession, declined to remain in the position of Instructor in English, and upon recommendation of the Committee on Employes, that Committee was authorized to secure a suitable person as Assistant in English, and another as Assistant in Mathematics, at salaries not to exceed \$1,000.

Upon recommendation of the Committee on Employes, the salaries of the following persons were increased from September 1st to stand as follows: Prof. E. R. Nichols, \$1,600; Prof. N. S. Mayo, \$1,800; assistants, F. A. Marlatt, \$720; F., C. Burtis, \$720; M. A. Carleton, \$720; E. Harrold, foreman, \$720; C. A. Gundaker, engineer, \$720. Further action was postponed until the next meeting of the Board.

After Consultation with the Committee from the State Commissioners for the Columbian Exposition, it was found impossible to secure space for the College exhibit in the State building at this time, and the Special Committee, Regents Fairchild, Wheeler, and Chaffee, was authorized to act for the Board in securing such space at the earliest opportunity.

In the matter of repairs for the ensuing year, Pres. Fairchild was authorized to act upon consultation with the Board of Public Works.

The Experiment Station Council was authorized to go forward in the work of the Station upon the basis of the present estimates until the next meeting of the Board.

Pres. Fairchild was authorized to sell slate now in store at cost, reserving only for current repairs.

The usual routine work of auditing accounts and comparison of vouchers, fixing essentially the basis of settlement with the out-going Treasurer, was gone through by the Committee on Finance. The Board adjourned to meet on the first Tuesday in August, 1892.

THE NEW COLLEGE CATALOGUE.

The Catalogue for 1891-2 is ready for distribution, and will be sent free to applicants.

A study of this catalogue reveals some interesting facts. There were in attendance last year 584 students, of which number 552 were from seventy-seven counties of Kansas, and 32 from fourteen other States. Twenty-nine applicants failed to pass the entrance examination, and were not enrolled.

SUMMARY OF ATTENDANCE.

Of the students from other States than Kansas, California claims 1, Colorado 3, Illinois 3, Indian Territory 2, Missouri 7, Montana 1, Nebraska 7, New Mexico 1, New York 1, Ohio 3, Tennessee 1. Texas 1, Germany 2, Wales 1.

	Gentle- men.	Ladies.	Total.
Post-graduate	3	7	10
Third-year	²⁷ 43	10	37 62
Second year	93 230	46 100	130 336
Totals.	402	182	584

Thirteen full-page illustrations are given of grounds, buildings, and interiors. The frontispiece is a view of the Main Building, followed in turn by "A General View of the Grounds," ical Room," "Kitchen Laboratory,""Department of Industrial Art," "Carpenter Shop," "Sewing Department," "Plan of the Grounds," "Printing Department."

A slight rearrangement aids somewhat the classification of the subject matter; and the number of bound volumes in the Library is given by

The list of graduates, with addresses and occupations, forms an appendix, and concludes with the following

SUMMARY.

During the 29 years of its existence, the College has received over 3,000 students, about a third of whom were young women. Most of them have come from farmers' homes, and, after from three months to three years of study, have gone back to such homes without graduation.

The number of graduates up to 1891 is 284, of whom 95 are women. Graduates previous to 1877 pursued, with two exceptions, a classical course, and received the degree of Bachelor of Arts. Since 1877, all have received the degree of Bachelor of Science, after a four-years' course in the sciences, with good English training.

Of the 189 men, 5 are deceased, and the remainder are reported in the following occupations:-

Farmers	34	
Fruit-growers and nurserymen	5	
Stock-raisers	2	
Assistants in Agricultural Experiment Stations	4	
Assitants in U. S. Department of Agriculture	3	
Editors of agricultural papers	2	
Teachers and students of special sciences	10	
· Veterinary surgeons	3	
Mechanics	4	
Civil, electrical, and mechanical engineers	9	
Contractors and builders	3	
Architects and draughtsmen	3	
General husiness men	8	
Merchants	9	
Printers	4	
Photographer	. 1	
Superintendents of public schools	11	
Teachers of public schools	24	
Students in other institutions	. 5	
Officers in army	. 2	
Observers in Weather Service	. 2	
Physicians and students of medicine	3	
Druggists	. 1	
Dentists	3	
Editors	. 9	
Ministers	. 5	
Lawyers and students of law	20	
Officials and official clerks	. 17	
Total	206	
Total	22	
In two occupations		
	184	
Of the 95 women, 4 are deceased, and the	re-	
of the 95 women, 4 are access,		

mainder are occupied as follows:—	
Housewives	34
At home	8
Assistant in sewing department	1
Teachers in household economy	3
Teachers in public schools	26
Teachers and students of special sciences	5
Teachers of music	2
Teachers of art	2
Clerks or stenographers	4
Printers	1
Milliner and dressmaker	1
Assistant librarian	
Hospital nurse	
Students in other institutions	2
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EDUCATIONAL NOTES.

BY. PROF. J. D. WALTERS.

Baker University has graduated nine students this year.

The new chapel of the Salina Normal School will seat eight hundred persons.

The Kansas University building is now lighted by over 400 incandescent lights. The plant was put in by the students.

Commencment at the Normal College, at Fort Scott, is reported to be the most successful in the history of the college.

Supt. Buel T. Davis, of Winona, Minn., formerly a teacher at the State Normal School, has been re-elected. Salary, \$2,000.

Harrison school, at Topeka, donated a wagon load of clothing, etc., and \$6.92 in money to the Harper and Wellington cyclone sufferers.

It is now Dr. W. A. Quayle, President of Baker University, the degree of D. D. having been conferred upon him by De Pauw University.

Prof. F. W. Blackmar, of the State University, has been offered a professorship in the North-Western University, at Chicago, at a salary of \$3,000 a year.

Arrangements have been completed for the transferring of the Agora Magazine from Salina to Topeka. The management of the magazine has been given over entirely to T. P. Dewey, of

Abilene, and he has arranged for its publication by G. W. Crane & Co. It will continue to be published quarterly, though considerable changes and improvements are contemplated.

The summer term of the Salina Normal School will open July 7th, and continue eight weeks. Twenty-two dollars will pay for tuition, board, and furnished room for the term.

Marysville has voted \$8,000 in bonds for a new school-house. The plan is to connect the two present buildings, by a central part, into a whole. If properly done, the result will be quite architectural, and give that thriving city school room enough for a long time.

The Emporia Gazette makes a strong plea in behalf of the State Normal School, and shows conclusively that more room is absolutely necessary in order to do the work required. The Normal is an institution in which every Kansan takes great pride, and it is one of the schools we cannot afford to neglect. The appropriations should be liberal, and commensurate with the school. A few years ago there was plenty of room, but now everything is crowded, and the work very much hindered by reason of the lack of facilities. Kansas can make no better investment than by placing money in these state schools, and the showing made by the Gazette should be in the hands of every voter.

The Board of Regents of the State University, at their commencement meeting, have made the following changes in the Faculty: The resignation of Mrs. Carruth, Assistant in German and French, was accepted. Miss Gertrude Crotty resigned her position in the natural history department. Miss Kate Merrill, who has spent the three years since her graduation at Bryn Mawr and Harvard, will be Assistant in French. Mr. E. F. Engle, of this year's class, will be Assistant in German. Alvin Shepherd, a graduate of Cornell, will be Assistant in Physics. The Assistant in English, H. M. Jones, who will take charge of elocution, is a graduate of Amherst College. Erasmus Haworth, '81, was elected Associate Professor of Anatomy and Mineralogy. He has spent several years at Johns Hopkins, and has had experience in his line of teaching. Prof. H. B. Newson was raised to Associate Professor of mathematics.

NATIONAL EDUCATIONAL ASSOCIATION.

Teachers and others intending to join the Kansas excursion to the annual meeting of the N. E. A., at Saratoga this summer, will be interested in the following announcements by the State Manager, Prof. J. N. Wilkinson, of Emporia:-

The railroads have made a reduction of over one fare for the round-trip. It is possible that a further cutting of rates will be made by some of the lines, but the official party from Kansas has been assured by the selected official lines that they will have the benefit of the best that is offered The fare will by any road to any party. probably be less than \$28 from Missouri river points, including membership fee of \$2. The Erie line is adopted as the official route for Kansas east of Chicago. All Kansas lines will sell tickets good for the trip over the Erie and all parties from all lines will meet at Chicago as the gathering point.

Holders of through tickets over the Erie line are given the privilege of stopping off at Chautauqua Lake and Niagara Falls. Those who wish to extend their trip to New York City can procure Erie line tickets at about \$1.25 additional cost. Several other side-trip arrangements can be made at equally favorable terms.

The meeting at Saratoga will be on July 12-16. Tickets will be on sale in this State July 4-10, and will be good until September 15. No stopover privileges are given before reaching Saratoga, but almost any desired arrangement can be made after that and during home trip. There will be two parties started from this State at Chicago. The first will leave that city on the evening of July 6th, and the second on the evening of July 10th. The second or main party will reach the N. E. A. just in time for the opening. Prof. Wilkinson, the State Manager, will send circulars, programmes, time-tables, and ail other desired information to those who intend to join.

Kansas will probably send a delegation to Saratoga of over one thousand members. Many will join the excursion because of the rare opportunity it offers to visit eastern relatives and friends or places of interest.

LABOR AND EARNINGS.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour of daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their abilities and means.

All labor at the College is under the direction of the Superintendents of the departments, and offers opportunity for increasing skill and efficiency. In regular weekly statements, the students are re quired to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed-outside of required hours of labor-upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with services rendered, from eight to ten cents an hour. The Superintendents strive to adjust their work to the necessities of students, and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay-roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term-time, or from other sources, for the larger part of their expenses. The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education it he has the ability to use his chances well.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—College Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

H. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite stu-stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Specacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silver-eware, Spectacles, Clocks, Fountain Pens, Gold Pens, etc. Re-pairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A J.WHITFORD sells Stoves and Hardware at very low prices, Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5.00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Motel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

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The INDUSTRIALIST may be addressed through Pres. Geo. T Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

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Questions, scientific or practical, concerning the different departments of study or work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work.—studies.

and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

Applications for Farmers' Institutes should be addressed, as early in the season as possible, to the President.

The Experiment Station should be addressed the season as possible.

The Experiment Station should be addressed through the Secretary.

SUCCESS.

[Annual Address at the Kansas State Agricultural College, June 7th, 1892, by Ex Governor Luce, of Michigan.]

MR. PRESIDENT, LADIES, AND GENTLEMEN:-First of all, I desire to say to you that I shall indulge in no rhetoric, nor attempt to stir your hearts with eloquent words or sentences. As a practical man, I will attempt to talk in a practical way about some of the practical affairs of life.

I suppose that it is true that every human being in the world desires to succeed in performing the alloted tasks of life. This is one of the distinguishing features that mark the difference between mankind and the animal race, and it is especially true that those who spend their time in the schools and colleges of this land do so with the direct and determined purpose of succeeding

in accomplishing their darling plans. I desire to present some of the methods that observation and experience have taught me are essential to the attainment of success. We all know that with equal opportunities one man fails to accomplish his purpose and another realizes all and more than his expectation. He succeeds; the other fails. There must be a cause for this. And now for the passing hour let us apply ourselves diligently in searching out this cause, and see if we cannot find and apply a remedy for the failure. As the theme of the evening is announced, our minds too often leap to the conclusion that success is only found in the accumulation of wealth-of piling up colossal fortunes; of becoming honored and renowned through the possession of millions. It is unfortunately true that in this country, where honors are not inherited,where there is no aristocracy of ancestry,-we do bestow too much honor upon money, wealth, and fortunes, no matter how obtained, or how they are expended. Still I will pluck no laurels from the brow of wealth, nor belittle its importance; nor do I yield to any in according honor to the man who has by close application to business, by industry, energy, and skill, accumulated a fortune and then uses it for the purpose of benefitting the community and the race. He is entitled to honor and renown. But for him who seeks and secures wealth, and then uses it for his own aggrandizement and for debauching the morals of the people-and corruptly interfering with the will of the voter at election, thus sapping the foundation of confidence in the government itself, I have but words of condemnation. Pray dismiss from your minds the thought that securing wealth is the only success worth seeking. Success may be achieved on higher and holier lines. As heroic struggles have been made to achieve success in life where wealth, or a desire to secure it, had no part in nerving the heart or strengthening the arm, as ever actuated the speculator in his mad thirst for money. The history of your own State furnishes abundant home evidence of this. Your noble commonwealth was born into statehood amidst the throes of approaching civil war. It was baptized in the precious blood of the heroic fathers and mothers who came here to lay broad and deep the foundation of liberty and equality of all men before the law. They have through toil and suffering succeeded. That was success—a great and enduring success. It was a success that will live to bless their children and children's children to the latest genera-

Now, students of the Kansas Agricultural College, your presence here furnishes strong evidence that you desire to succeed. Your certificate of scholarship furnishes evidence that you have mastered the first lessons in its attainment. I attended a portion of your exercises here this afternoon,

and learned from you that the Class of '92 have excelled all those who have gone before you, but I desire to buoy up the hopes of the classes that are to come after the Class of '92 with the assurance that they can excel with each coming year all those who have gone before them if each member of each class shall apply herself or himself with all their mental, moral, and physical energies to a performance of the tasks set before them. The success which I commend to you is only fully achieved by doing this. Without this, efforts are wasted, energies benumbed, and the golden opportunity is permitted to pass by never to return. RULES OF SUCCESS.

With an extensive acquaintance with the world, I have found that the observance of certain rules is essential to happiness and the attainment of human desires. You will not only be surprised but skeptical of the truth and accuracy of the statement made in relation to the first and most important rule that should govern your action. If you desire to triumph over obstacles and reach the goal of your ambition, I say to you in all sincerity and earnestness that the first step towards success is a faithful study of yourselves. We all know that one man will succeed in a certain calling while he will fail in another. The world is full of illustrations of this great truth. We discover that one man can succeed as a farmer; another can succeed as a newspaper editor; another can succeed as a mechanic; another can succeed in the transaction of business; another will be a successful railroad man. We are, each of us, so constituted that we have a tact, a skill, a taste, or an ability to succeed in one thing, and we cannot in another. So, first of all, let me impress upon you the importance of studying yourself. Study your Jesires; study your aspirations; study your ambitions.

I am not going to array before you the names of great men to illustrate the truth I am trying to present to your minds; but there is one which is familiar to all of us; one illustration of the very extremes of fitness for one calling, and unfitness for any other. General Grant was a failure as a farmer; he could not run a farm successfully; he could not make money at it; he could not support his family from it. He did not enjoy it, or get any good out of it. He was an indifferent tanner, but he made it go better than farming. It was more congenial to his tastes and abilities, to his ambitions, perhaps. But General Grant did what no other man in America could do: he commanded a million men, concerted their action, and brought to an end a rebellion which had cost us so much of life and treasure. He was there at home; there he could succeed. Now, I do not suppose we are going to want another General Grant. I hope not. But there are opportunities always opening for the man who is well equipped, and has a taste for the calling. There are opportunities everywhere, and especially way up high; there are always vacancies there, and you young people, both ladies and gentlemen, are in line to seize them. For filling these high places, you here lay the foundation. You here lay the foundations for a business career for practical work, and you start out into the world in advance of those who have not enjoyed the opportunities and privileges that you have enjoyed here.

Thorough knowledge of ourselves can never be taught to us by others. No man here will ever undertake to tell his wife all the weak points in her character; and I am sure it is an unsafe experiment for a wife to tell her husband his faults. You cannot teach in that way. We have got to turn our eyes inward, and perceive our own tastes and our own abilities before we can determine where or how we can succeed. We have got to turn our eyes inward and study our own nature, ambitions, and aspirations.

Now, to illustrate the danger and the folly of undertaking to point out the weaknesses in the character of your friends, I want to tell a story:-Two neighbors had experienced religion, joined the church, and become good men. Jones said to his friend Smith one day: "Now, each of us has his faults, and I believe we can do each other good, that we can do the cause good, and the church good, by each telling the faults of the other. Now. I know your faults and you know mine, and we will tell them to each other." Jones: "That is a good plan." Smith said to Jones: "Now, Jones, you commence and tell me just where and what my faults are." "Well, Smith," said he, "in the first place, you are an awful liar." And Smith knocked Jones down right then and there without waiting to hear him through, and without improvement to either himself, the church, or the cause.

You will not fail of success in the journey of life if you fully, thoroughly, and honestly know yourselves; and you must do it if you expect to achieve the highest success within your reach. After having determined this, and after having decided what you will do, and how you will attempt to do it, I say to you, my young friends, and plead with you with the voice of experience, stick to it! Adhere to your plans, though difficulties may confront you, though dangers may threaten you along the pathway of life, and failure be imminent at times, adhere to your first ideas! Stick to them with all the tenacity you adhere to life itself.

Now, the first thing after this, after you have determined to adhere to the business which you have adopted as the best you could adopt, let me plead with you to be industrious. Right here has been the fault of a great many educated as well as uneducated men. The pathway of life is strewn with the wrecks of those for whom the clock struck twelve the hour they received their diplomas. They did not stick to duty; they were not industrious; they had some education and they thought it was enough. I want to confess frankly to you that away back, when a boy, I thought Commencement Day was a misnomer. When you have finished your course at college and have graduated with honor, to call that Commencement, it seemed to me was an error; but long experience and observation have taught me that it is absolutely correct, that it is a commencement; that it affords to you who seek them, opportunities for commencing the journey of life skilfully and well, and to follow it successfully aintil called to an eternal home.

EARN A LIVING.

Now, of all the things in the world, I abhor the idea which some entertain, that the world owes us a living, and a living we are bound to have. It is an error in fact; it is an error in philosphy; it is an error in justice and honor. The world owes you and me nothing except life, liberty, and an opportunity for the pursuit of happiness. It owes us the opportunity to achieve success and fortune; to climb high, or grope low, as we choose; but the price of success is industry; we must work for it. Much of the difference between men grows out of the difference in their industry. You will pardon me if I mention two men who are distinguished in this country for legislative ability and statesmanship: one is Senator Sherman, and the other is Senator Cockrell. I mention one Republican and one Democrat so that you will not accuse me of partiality. Both of these men have climbed high; other Senators look up to them for guidance. Now, the chief difference between Sherman and the men below him on the ladder of fame and usefulness is his superior, untiring industry. You may step into the Senate chamber at any time, and you will see Senator Sherman poring over his books, poring over his bills, and preparing himself to discuss the questions which are to come up in the Senate. You will find the same thing true of Senator Cockrell. I have sat in the Senate gallery day after day, and there were always to be found those two industrious men hard at work. Industry! Why, the most honorable thing that a man can claim is to be industrious. And yet, there is an error in the minds of some men that is not worthy of them. I, once in awhile. hear a mother say to her children, "I don't want you to be compelled to work all your lives as we have been compelled to work; we want you to be above that." I want to say to you that if any of your parents have sent, or aided you, to come to this college with a view of escaping work, those parents have made a mistake. If you have come here, and entered college and expect through the knowledge which you acquire to escape

hard work, no matter what calling you follow, then you are mistaken, and you had better never go to college; you had better leave at once for home. The Almighty has proclaimed that man should work, and it has been his lot from the creation of the race down to the present hour. It is industry that brings distinction; and I want to say right here, for fear I forget it, that all industry is honorable if you bring to the discharge of your duties intelligence, energy, and usefulness. You can make one calling just as honorable as another if you bring to the discharge of its duties your best intelligence and fidelity. There is an opinion abroad that physical labor and high mental attainments are incompatible with each other. I meet it in my wide acquaintance with the world. I met, awhile ago, a lady in Detroit, skilled, learned, excellent; in all her characteristics a grand woman. But she said, "You can talk until doomsday, and you can never elevate the men and women who toil. You cannot lift them up; they cannot be bright, quick, ready, accurate thinkers if they are toilers." I said to her, "If this is true, may God have mercy on popular government, for the great mass of our people are toilers." It is the duty of educated people, as well as of the uneducated, to lift up the men and the women who toil with their hands. I do not want to forget that all of this advice and all of these evils apply with equal force to the women. They are surely crowding the men out of many of the industrial positions of life. They have crowded them out of our State house, and I presume, out of yours. They are crowding men out of our school-houses. And so, when we talk about success, it is just as essential that the ladies should take some thoughts home with them, and consider them, at least, whether they take any stock in what is said here or not.

And now, the next thing,—and it is a very important matter, too,—I have pleaded with the farmers in half the school districts of our State, with men and women of all callings, with our teachers, our doctors, our lawyers, our farmers, to be proud of their occupation. Lift it up, support it; defend it with all the pride you have in you. It matters not what your occupation is, if it is an honorable one. You can be just as proud of tilling the soil as in governing a nation. Indeed, I say to you, verily, verily, the man who wrings wealth from the soil and maintains the fertility of that soil is a benefactor of his race. No man can climb higher on the ladder of usefulness than he, now and hereafter. So that we may be just as proud in tilling our soil and working in our shops as a man can be in anything else if we bring to bear upon it that high intelligence that belongs to all callings as a part, or should be, of humanity itself. It is a lack of this pride that sometimes lowers a man in the estimation of other people in the calling which he follows.

KNOWLEDGE AND WISDOM.

Now, the next thing we ought to do if we are going to succeed in life is to get all the knowledge we can in relation to all the subjects that come up for our action; gather up knowledge in the school; gather in knowledge as you toil: gather up knowledge from the farm and in the shops, and then, when you have secured that knowledge, use wisdom. There is a difference between knowledge and wisdom as they are generally applied. Knowledge consists in the accumulation of great masses of information. Wisdom is exhibited in the use of that information. And here is one of the essentials that you should learn in the schools and as you run the race of life: put your knowledge into execution. Use it. Be wise. Use wisdom in the discharge of your various duties, whatever those duties may be. In many cases we know better than we do; or, in other words, we have more knowledge than wis-

One young gentleman today spoke of politicians, and that is the very next thing I have in mind to present to you. I do not want any one of you to be one of these weak and wicked politicians that we read about and know something of. You want to be bold, brave, honest American citizens. Study the principles upon which the government rests, and discharge the duties of your citizenship valiantly and well. It is almost a crime in many educated men that they are not politicians in this better, broader, and holier sense of the term. There is not another government on the face of the earth which affords to manhood and womanhood such golden opportunities for development as our own American government, and it is going to take bold, brave, and honest men to save it in all its purity in the crises which come to all nations; and you should go forth and do your part. I do not think it is worth while-and I have had some experience, too—to go out seeking offices; but go out as brave, honest, patriotic men and discharge your duties at the caucus, discharge your duties at the polls, holding the lever in your hands that gauges public sentiment. This is needed everywhere, and you should, every one of you who go out from this College, and from every other college, be profound politicians, be strong in your purpose, be strong in your plans to checkmate the weak and wicked politicians, who are one of the curses of this nation both east and west, especially in the cities, and to some extent in the country; and you should, of all other men in the world, be downright, square, honest politicians. You should take hold with all your might to hold up this great throne of ours, where every man is a sovereign, and goes forth in his sovereignty to discharge his duties as a citizen.

Now, another thing I want to talk to you about. It may belong more properly to the preacher than it does to the farmer; but there is not a man or woman of you who can go out in the world and prove a success without a strong moral support under your feet. I do not care what achievements may be in store for the man or woman who goes out in the active duties of life; if they do not stand upon the rock of eternal right and justice, they do not discharge the duties of life, and are not a success. The whole fabric of government rests upon two pillars: one is the church and the influences that go out from the church, and the other is the school-house, and the influences that go out from the school-house. These two great institutions hold the scepter and the crown in their hands, and the men who go out from our colleges and our homes into the world should be faithful to them; they cannot do with-

out them.

Now, again, you want to have a good opinion of yourselves. I need not, however, urge this upon the Class of 1892, for they have the supreme virtue of a good opinion of themselves, a truth which was illustrated this afternoon,—and I am glad of it. You want to hold that good opinion just as long as you live. There is no other good opinion as valuable as your own, if you expect to achieve high success in life. You want it not only as you go out of College today, but you want it to keep forever. Each of you has got to live for himself; for yourself you have got to die; with yourself you sleep at night; with yourself you get up in the morning, and it is of the most supreme importance that you have this good opinion of yourself. If you have, it is evidence that you deserve that opinion. No scamp on earth ever had a right good opinion of himself. He may gloss it over, and he may think that bad is good, and that wrong is right, but at the same time, he entertains, in his inmost soul, a profound contempt for himself. But you go out into the world, believing in yourselves, with confidence in yourselves, feeling as you have talked here today, both ladies and gentlemen in relation to the Class of 1892, it is the loftiest and strongest that ever went out to achieve place in the world. I am glad you think so; I rejoice in it, and so should every man and woman among you. If you have confidence in yourselves, because you deserve it, you will certainly attain success in the race of

. SUCCESS IN FARMING.

When I agreed to come here, some two or three months ago, I was at a loss to know whether it would be better to talk about success for a time, or whether I should talk about the needs of the farmer, which is more of a home question with me. I was born on a farm: I have always lived on a farm. I own a farm which I have worked for forty-three years, and I have some pride in that farm, and, as I say, I was at a loss for some time to know what to talk about. The Faculty gave me my choice. Now, I have talked to you briefly in relation to success. I have perhaps told more than you will remember; I doubt not I have. Yet I take the liberty of inflicting upon you some thought in relation to another though kindred theme which comes right in line with what I have already said.

Do you know that farming is the most important occupation of man? Do you know that it requires more ability to properly take care of a farm than of any other business? I know some-

THE INDUSTRIALIST.

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MANHATTAN, KANSAS, SATURDAY, JUNE 25, 1892.

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COLUMBIAN SUPPLEMENT.

Kansas Educational Exhibit, Columbian Exposition. BOARD OF DIRECTORS.

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GENERAL DIRECTIONS.

Inquiries as to methods of raising funds may be addressed to G. W. Winans, Topeka, or to L. C. Wooster, Eureka.

Funds raised should be sent to Geo. T. Fairchild, Treasurer, Manhattan.

Plans and information as to forms for exhibit, materials, etc., may be obtained from L. C. Wooster, Eureka.

State Superintendent Winans, Topeka, L. C. Wooster, Eureka, or any member of the Board may be asked to assist at County Institutes and Associations in arousing interest in the Exposition.

Colleges and other institutions not connected with the public schools should apply for space to Hon. Geo. R. Davis, General Director of Columbian Exposition, Chicago, Ill.

Further directions and information will be given in a second Col-UMBIAN SUPPLEMENT, to be issued about August 20th.

INTRODUCTORY.

This COLUMBIAN SUPPLEMENT is issued by authority of the Publication Committee, under direction of Mr. L. C. Wooster, of Eureka, whom the Executive Committee have appointed Superintendent. Mr. Wooster will visit Institutes during the summer to encourage a general interest in the work, and give his entire time to the classification, arrangement, and display of the exhibit as the material comes in. It is hoped that all teachers will be interested in making the educational exhibit of Kansas worthy of the State, and that immediate preparations will be made for work in the schools as soon as they open in the fall. This paper is sent to ten thousand teachers in the State with this expectation.

It is desirable that any funds raised be sent to the Treasurer soon, so that the Board may know where to place the effort needed for completing the collection of the \$10,000 required for the work. Teachers who made no effort last spring can have plans already laid for the fall. If each school contributes its mite, the whole will come with little exertion on the part of each, and all will feel an equal interest in the result. Let none hold back because abilities are small; it is the many mickles (nickles) that make the muckle.

THE COLUMBIAN HISTORIES.

Should it be found wise to print all the Columbian histories in one establishment, any county, city, or educational institution could, we presume, obtain pamphlet copies of their individual histories at a small additional cost; and many of these pamphlets might be distributed to the visitors at the Exposition next summer. Or, should it be found impossible to bind any of these histories on account of lack of funds—we trust that such a possibility is exceedingly remote—the histories could be printed at the local offices throughout the State, and the pamphlets distributed as suggested above.

COLUMBIAN DAY.

On October 12th the Columbian Exposition Buildings will be dedicated in Chicago. On that day American civilization will celebrate its fifth centennial, and the idea has been advanced by the Youths' Companion, and endorsed by the press and the leading educators, of making it a memorial day in all the schools of the country. It is an inspiring thought to give the Public School a fitting prominence as the fruit of four centuries of American life, and to flash the significance of this anniversary home to the boys and girls who make up one-fifth of our population.

Kansas should lead in making this day what it ought to be, but to make the celebration a success it must be impressed on all who are to be instrumental in producing this result, that early action is necessary. The general arrangement should be discussed in the summer normals. Short notices concerning the significance of the day should be published in the home papers. During the vacation months, when the teachers are free from school duties, they should perfect their plan of details for the local celebrations, so that at the opening of the fall term the official programme can be announced without delay. In most schools the 12th of October will be a rather early date, but if the entire matter for the programme is prepared beforehand all confusion can be avoided and the celebration will be a credit to those who had it in charge. Let teachers, pupils, and patrons respond at once to the unusual opportunity which the proposal for memorial day offers them.

Programmes, suitable songs and declamations, scenes and tableaux from the life of Columbus and the historic events of 1492, will undoubtedly be published by all the leading educational periodicals, so that the teacher who is on the alert will be able to easily gather up the needed material. Original addresses and essays should form part of every programme. With all the history of America to draw from, there should be no difficulty in arranging original matter or, at least, in making original arrangements.

Some schools and colleges have not as yet made any attempt at raising a contribution to the State fund for making an educational exhibit at the Columbian Exposition. It is necessary that all should lend a hand, and the proposed celebration of Columbian Day would furnish the welcome opportunity. A small admission fee might be charged, or, after having stated the purpose to the audience in a few words, the teacher or some school officer might take up a collection. Let us make the effort; let us prepare for the 12th of October; let us have a Columbian day.

TO COUNTY SUPERINTENDENTS.

The Superintendent of the Educational Exhibit regrets that it is impossible for him to visit more than forty or forty-five Institutes this summer out of the one hundred and six in session. The Institutes he can visit lie mostly in groups, and the groups he will select will enable him to visit all parts of the State, so he can acquaint himself with the wishes of all sections.

Whether he comes or not, it is to be hoped that one or two hours will be given in each Institute to a special drill on preparing work for the Exposition.

It is also suggested that all teachers be urged to prepare for the celebration of Discovery Day, Oct. 12. Programmes will be sent to every district in the State, probably through the County Superintendents.

A five-cent admission to the exercises will very easily supply the funds to pay the five-cent contribution per pupil, so necessary to the success of the Kansas Educational Exhibit at Chicago next year.

OPINIONS OF EDUCATORS.

We confidently appeal to the splendid body of Kansas teachers for their hearty and enthusiastic co-operation. We believe that the efforts along the proposed lines will give to the schools an impetus whose benefits will be far-reaching and lasting, and that in a multitude of ways the result will repay for the time and labor bestowed. Such an opportunity has never before been presented us for showing what our pupils and our teachers are doing. Kansas expects to rival her sister States in the exposition of her material interests. Shall her educational interests be found wanting?—Bloss.

My heart is set on securing the material and the money with which to do justice—and that will be doing an honor—to this fair State of ours.

If I did not fear that you would recognize the language, I should feel like saying, "There can be no night so dark, no storm so wild, no distance so great, that I will not be ready to do what I can to further this work."—Winans.

Kansas has as good schools as any State in the Union, and a corps of teachers who are thoroughly alive to their work. We have as many bright pupils as can be found in any State. All that is needed now is direction and encouragement. We have not had the drill, perhaps, but that we can get if we begin at once.—Circular.

Teachers, I am sure you will not let our County suffer by comparison with others. The collection of work for the exhibition will not, perhaps, all be made until next year, but in the meantime you will do well to make yourself familiar with the purpose and manner of making the collection. You may not teach the same school next year, but you will teach some school. I shall not be Superintendent when the collection of the work will be made, but I am anxious to smooth the path of my successor, to lay deep and broad the foundation upon which he may build. Upon the hearty co-operation of all depends our success. Let us succeed.—County Superintendent.

It pays as a matter of business (and who doubts it) to show to the world our natural agricultural and mineral resources, manufacturing facilities, commercial advantages, etc.; it will surely also pay as a simple matter of business to let the world know of our excellent school facilities and advantages. One important object of the whole Kansas exhibit is to induce a desirable class of immigrants to come and make their homes in this State, and to bring their labor and capital to develop our resources and advance the general interests of our commonwealth; and the better class of immigrants, when considering the attractions of different localities and deciding on a place for a future home, will surely be influenced in their decision fully as much by the educational facilities offered as by any other thing. In other words, it ought to be as valuable to Kansas to have our excellent school facilities shown up as it would to have it known that she is a great wheat State or a great corn State. - Newspaper.

The space assigned to this exhibit is by far larger than was ever before offered to this interest. It is in the choicest place in the Exposition. It is environed by the great departments, every one of which is its child, some of them, in former expositions, being included within its fold. If to any the space seems inadequate, the remedy is to fill that space with only the noblest and the choicest material, leaving behind all which is feeble and commonplace. There is room enough, there is material enough, to make the Educational Exhibit the jeweled crown of the World's Columbian Exposition.—Dr. Peabody.

COLLEGES AND STATE INSTITUTIONS.

All educational institutions of higher rank than high schools and academies must make their applications for space directly to Dr. Selim H. Peabody, Chief, Department of Liberal Arts, Chicago. All plans for exhibit cases must also be approved by him.

For further information, please see the twelvepage circular of the Kansas Board.

THE COLUMBIAN EDUCATIONAL HISTORY OF KANSAS

It is desired that the manuscripts for this history be ready for the printer by the first of October; but, in order that they may be ready at that time, it will be necessary to begin their preparation at once. Superintendents and heads of institutions should select immediately the proper person to do this work, and then help in pushing it.

The circular already issued by the Board to the teachers of Kansas provides that this history shall contain a condensed history of county or city schools from organization; also of all higher institutions of learning, whether State, private, or denominational. These should snow the development and the growth of the schools; the attendance at various periods; the character of the early school buildings; the number of pupils sent to higher institutions of learning, etc.; the present condition of the schools and the appliances, together with the present value of the school property and appliances; endowment fund, etc. Mention should be made of those who have been the executive heads of the several schools, both as superintendents and presidents, and of those who have been especially active in your county or city as factors in developing the school or college; in short, as complete a condensed history of the schools as possible should be given. These papers will be limited to four pages, 6 x 9 inches, and are to be printed on white book paper, in brevier type. The Board desires 1,000 printed copies of each. These will be bound by the Board into 1,000 volumes. In return each county, city, school, or private institution reporting will receive one copy.

It is further recommended that these histories be enlivened by reminiscences, concisely told; and that statistics be written rather than placed in the tabular form. This will make the history more

readable and less expensive.

It has been objected to the last clauses of the rules, quoted above from the circular, that four pages are too few for most counties and institutions, and that the plan for printing would make the work expensive and unsatisfctory.

Should it become evident that those interested in our Columbian History are willing to pay for the expense of printing and binding it in one office, there is no doubt but that these objectionable clauses may be changed, and if more space is desired, that it may be obtained if within reasonable limits.

Let the manuscript be prepared first, and then

inform the Board of your wishes.

The Wisconsin Board of Managers, while adopting with full credit the major portion of the circular of our Board, modifies the Columbian history clause by stipulating that all component histories shall be printed at one office and shall not exceed a maximum limit of ten to twenty

Each county, city, or institution, according to the Wisconsin circular, which prepares a history shall accompany the manuscript with an amount equal to the estimated cost of printing and binding the history; i. e., a certain sum for each printed page of the history contributed.

It is proposed that the printed matter on the page shall cover a space of 4 by 7 inches. This area should hold about five hundred words of ordinary length.

It is estimated that, should 1,000 copies be taken, the cost per page would be about \$2.00.

It is very probable that more than 1,000 copies could be sold in Kansas alone to those not entitled to a free copy. The profit from such sales would enable the Board to insert photo-engravings of educators prominent in the educational history of the State.

It is further suggested that a few engravings might well accompany each component history. Most institutions already possess cuts of their buildings, and President or Principal, and the counties and cities of the State could easily obtain photo-engravings of their Superintendents.

Such an opportunity for preparing a complete educational history of Kansas may never come again; the chief actors are fast passing away, and the information which they would gladly furnish now will in a few years be beyond recall.

From past observation we know that the counties, cities, and institutions of learning in Kansas are ready to push forward any work that will elevate our educational standards, and we feel confi-

dent that Kansas will not be allowed to be one whit behind her sister States in building an imperishable monument to education,—a Columbian History of Education in Kansas.

EDUCATIONAL DISPLAY IN KANSAS BUILDING.

From Circular.

The Directors in charge of the display of the resources of Kansas in the Kansas building desire that the Directors in charge of the Kansas Educational Exhibit in the Government building take charge of and prepare a duplicate display for the Kansas building. This we have agreed to do, provided we can make two exhibits without violating the rules. Hence the Board desires a duplicate of the several kinds of work prepared for the National exhibit. By duplicate is not meant a copy of the work sent to the National exhibit, but simply more work of the same kind.

The rules and plans for the preparation of the work are the same for both exhibits.

In the National exhibit the State is the unit; hence the work there will be exhibited by grades.

The unit in the Kansas building will be: the county, including cities of the third class; cities of the second class; cities of the first class; and the individual higher institutions of learning. The whole work of each will be placed together. Thus, all the work under county superintendent, the city superintendent, and the executive head of each system of schools or school, will be placed by itself.

COUNTY SCHOOL WORK.

In preparing work for the exhibit, teachers and pupils shall be guided by the general rules made by the Board of Directors which accompany this outline.

1. Kindergarten and primary work and devices.

2. Made work in clay, paper, or wood.

3. Manuscript work on any subject taught in the school.

4. Maps drawn from memory.

5. Drawing (free-hand) copies, original designs, drawings from objects, also mechanical drawings.

6. Composition work-Illustrated stories, stories produced from memory, stories suggested by written subjects or by pictures, essays on themes assigned. (To be prepared in the same manner as the regular examination papers).

7. Penmanship-All work to be written from

the printed page.

8. Spelling-Test manuscripts from examina-

SPECIAL WORK. Work in any subject as above, as:-

1. Arithmetic-Solutions and drawings, showing methods of analysis and illustrations.

2. Grammar—Diagrams, parsing, analysis, etc. 3. Geography-Written summaries, drawings showing the forms of land and water, relief maps, etc.

4. Physiology-Drawings showing the framework or organs of the body, etc.

5. History-Drawings showing the plans of campaigns, battle fields, historical relics, buildings,

6. Composition—Essays, debates, orations prepared for rhetorical exercises. Originality, diction, and arrangement should be considered in

making selections of work for the exhibit. 7. Special work must be done in accordance with the rules of the Board. See 23-26.

Note.—The above outline is intended to be merely suggestive. The superintendent and teacher should use their judgment and skill in bringing out the best work that their schools can accomplish.

CITY SCHOOLS.

Note.—All manuscript work or work for wall exhibit in this department shall be prepared in conformity with the rules laid down by the Board of Directors.

- 1. Kindergarten and primary work and devices.
- 2. Made work, in clay, paper, or wood.
- 3. Manuscript work of pupils on any subject taught in the school.

4. Maps drawn by pupils from memory. 5. Work in drawing-Copied, enlarged from copies, original designs; also from objects or imagination (free-hand); also mehcanical drawings, including prespective and working drawings. If water colors or oil painting is taught in the

schools, these are also included. 6. Composition work-Stories suggested by

pictures or from a subject in writing; essays on a given theme. (To be prepared in the same manner as the regular examination papers).

7. Penmanship—Work to be written from printed matter.

HIGH SCHOOL WORK.

Note.—All manuscript work or work for wall exhibit in this department shall be prepared in conformity with the rules laid down by the Board of Directors.

- I. Algebra—Examination papers, in form(a). For other phases of work follow suggestions governing work in arithmetic in grammar grades.
- 2. Geometry, Trigonometry, and Surveying. I form (a): Submit examination papers and other work. 2. Form (b): Original problems and demonstrations. The work would better be done on unruled paper. Figures to be drawn in colored ink, showing the given and the construction lines.
- 3. Materials, instruments, and devices for illustrating and conducting class work, prepared for
- 4. Natural Sciences. Form (a): Examination papers in Physical Geography, Geology, Physiology, Zoology, Botany, Physics. Chemistry, and Astronomy.

Form (b): I. Physical Geography and Geology. (a) Maps showing the variations of temperature; distribution of moisture, vegetation, and animals; effects of climate; movements of winds and ocean currents, etc. (b) Relief maps in clay, putty or salt, etc. (c) Drawings and diagrams illustrating features of the earth's crust, rock formation, erosion, movements of the earth, variation of night and day, etc.

II. Physiology. Show diagrams and drawings illustrating organs and structure of the body, as forms of joints; structure of bones and muscles; drawings of heart, eye, and showing circulation, etc. Models or drawings of apparatus and de-

scription of experiments.

III. Natural Philosophy and Chemistry. (a) Note books (or sheets) with drawing of apparatus and description of experiments and statement of results. (b) Working models and apparatus tor experiment and practical use, prepared by pupils.

IV. Botany and zoology. Herbariums, collections, and prepared specimens, illustrating the principles and classifications in Botany. Collections of local flora and fauna, drawings, diagrams, and specimens illustrative of structure and development of life.

5. Languages-Latin, Greek, French, or German. Form (a): Examination papers. Papers in composition. Papers illustrating the relation of each vocabulary to the English. Sight translations. Form(b): Drawings and maps illustrating historical, geographical, or other allusions.

6. English Language and Literature. Form (a): Exercises in(a) letter writing, business forms; (b) paraphrasing, condensation, and amplification; (c) outline plan of essay, and finished essay from outline; (d) analysis and discussion of masterpieces studied in class; (e) general papers in history, word-study, construction, rhetorical illustration. Any of the above features may be exhibited in form (b).

7. History. Form (a): Examination papers and essays. Form (b): Plans of study, maps, diagrams, drawings illustrating comparative work; graphic representation of progress of religion, government, literature, art, manufactures, inventions, and development of commerce.

8. Drawing. Form (a): From objects copied, enlarged from copies, free-hand or mechanical. Form (b): The same, including painting in water colors or oil, etc.

PRIVATE GRADED SCHOOLS AND GRADED PARC-CHIAL SCHOOLS.

The work of these schools will be prepared under the rules laid down for cities and may be farwarded to the President of the Board of Directors directly, or through the county superintendent.

PUBLIC AND PRIVATE ASYLUMS.

All schools and institutions of a charitable or reformatory character are earnestly requested to present an exhibit of their work. The details must be left largely to the officers in charge, as each institution has its own individual and specific field. The President or Secretary of the Board will be pleased to open correspondence at once with the executive heads of such schools as may care to co-operate.

OTHER STATES.

MISSOURI.—"We have been allotted \$6,000 out of the Missouri World's Fair appropriation. It has not yet been decided whether or not we will take up a collection among the pupils."

LOUISIANA.—"We are waiting on the Legislature, in session at present, for an appropriation for our World's Fair Exhibit."

MISSISSIPPI.—"We have done nothing towards an Educational Exhibit at Chicago. An effort is now on foot to raise a private fund for Exhibit purposes, but the people are apathetic owing to financial depression and to the fact that the Legislature failed to make an appropriation. We mean to make a strong trial next fall, and hope to meet with success."

Wisconsin.—"We have a share of the appropriation made by the Legislature, but all expenses incurred in the direct preparation of Exhibit matter must be met by local authorities. At the annual meeting in December, 1891, the Wisconsin Teachers' Association enacted that a committee of thirteen, interested in the work of education, be appointed to represent the State of Wisconsin, as a Board authorized and empowered to prepare, collect, and arrange an exhibit of the educational forces and results of the State. Seven sub-committees have been appointed to take charge of as many departments of the work."

In a circular recently issued, the Secretary of the Wisconsin Board thus testifies to the excellence of the circular issued by the Kansas Board:—

"In the preparation of this circular the Secretary desires to acknowledge the great help obtained from the Board of Directors of the Kansas Educational Exhibit. The excellent suggestions of the circular published by the Kansas Board, and the plans therein worked out, have been freely appropriated wherever they served the purpose of the Wisconsin Committee."

MICHIGAN.—"We would like to have a meeting of the General State Superintendents of the Educational Exhibits for mutual exchange of views on plans for the Exhibit. Could the Superintendents not meet in Chicago July 6th and 7th?"

Kentucky.—"A bill providing for an appropriation to enable Kentucky to make a suitable display of her progress and history; her agricultural, mineral, and educational development—everything, in short, illustrative of her character, resources, and advantages—at the World's Columbian Exposition, is pending in the General Assembly."

OREGON.—A circular similar in form and matter to the Kansas circular has been issued, giving formal credit to the Kansas Board for ideas and method. Indeed the handiwork of our late President, now President of the Oregon Agricultural College, is already felt in the movement.

THE GREAT PIONEER OVERLAND ROUTE

THE UNION PACIFIC RAILWAY.

Nothing so impresses one with the fact that the West is taking immense strides in material civilization as a ride through the Kaw Valley along the the line of the Union Pacific Railway. Fertile farm-lands, substantially built cities, and, perhaps more than all else, the heavily loaded freights and the splendidly equipped passenger trains of eight or ten coaches thronged with passengers, all speak of a land overflowing with the milk and honey of prosperous industries.

The Union Pacific passenger service is one of the finest in the country, and we take pleasure in commending to the teachers of Northern Kansas this great thoroughfare between the East and the West. For information, address,

E. L. Lomax,
Gen. Pass. & Tkt. Agt., Omaha, Neb.
A. M. Fuller,
Agent Union Pacific System, Topeka, Kan.

The Missouri Pacific Railway will sell tickets at one lowest first-class fare for the round trip, plus \$2.00 for membership fee, for the National Educational Convention, July 12th to 15th, at Saratoga Springs, New York. The above line is handsomely equipped with elegant Palace Coach Reclining Chairs, in which the seats are free, and Pullman's finest Sleeping Cars. Before selecting your route be sure and call on any of the company's agents, who will be pleased to furnish you with any information desired.

THOSE STRAW-BOARDS FOR WALL EXHIBITS.

1. Weight.—A bundle of boards 25 by 38 inches (this is the smallest size prepared at present by the paper companies) weighs 50 lbs. No. 40 board is of such weight that 40 sheets make a bundle; No. 35 board, 35 sheets to the bundle, etc. No. 50 board is not quite stiff enough. No. 35 or No. 40 would be better.

2. PRICE.—The Kansas Newspaper Union, of Topeka, quotes straw-boards in 10 bundle lots at \$1.25 per bundle, cut to the desired size, 22 x 28; for the single bundle the price is \$1.50, cut as desired.

Should the paper companies learn that hundreds of tons of straw-boards of the size 22 x 28 will be needed throughout the United States, the boards may be obtained at the proper size, and, consequently, at lower rates in the months to

3. Paste.—Some of the Topeka schools are using with success prepared carriage glue. Others, in other cities, are using photographers' starch paste very successfully. Mrs. L. H. Picken, of Iola, sends the following directions for a gum arabic paste, which teachers will find to be excellent:—

To I pint clear flour paste add 4 tablespoons granulated sugar, 2 tablespoons powdered gum arabic; dissolve sugar and gum before adding to paste, and stir the whole while hot. If you desire to keep sweet and do not care if it is discolored, add a half ounce of whole cloves sewed up in a cheese-cloth bag.

4. Pasting.—Those who have had little experience in pasting would do well to take a lesson of their local photographer. Be sure to make the margins of the sheets secure, and also the binding.

5. Borders.—Sheets of thin, glossy-black papaper, such as is used in covering pasteboard boxes, may be obtained, already gummed, of Geo. W. Crane & Co. or of Hall & O'Donald, both of Topeka.

The marginal binding may be one-half an inch wide or more, but the strips which cover the edges of the papers on the face of the straw-board should not exceed one-fourth of an inch.

These directions are only suggestive. Any other method of making the work stand out clearly may be employed.

6. Drawings.—Two columns of drawings, three in each column, seem to give the best effect on the straw-boards required, 22 x 28. It will be remembered that the longer dimension is the vertical one. Physiological drawings may be placed on larger sheets of drawing paper, and graphic exhibits of special processes, and of school enrollment, attendance, etc., may cover the entire straw-board. See rule 7 of the twelve-page circular.

PHOTOGRAPHS.

It is very desirable that each county, each city of the first or second class, and each State or denominational institution should prepare two duplicate albums of photographs of buildings and prominent educators.

The buildings should be those interesting because of age or perfection of plan. It is recommended that the old buildings and the new ones replacing them be placed side by side on the same or opposite pages of the albums to show progress.

The educators given a place in the albums should be Boards of Education, Superintendents and teachers, County Superintendents and their teachers, Trustees of educational institutions, State or denominational, and their instructors.

The albums recommended contain leaves upon which the photographs may be mounted by the artist. To show sizes and prices we quote the Howard albums, manufactured by the Collins Card and Album Co. These albums contain fifty pages for pictures, and may be obtained through any photographer:—

Or the photographs may be mounted upon the heavy straw-boards, 22 x 28, for wall exhibit.

This form of mounting admits a variety of groupings, and will attract the attention of the far greater number of visitors to the Exposition. Both sides of the boards should hold pictures.

For both book and straw-board mountings, the cabinet size of photograph, $4\frac{1}{2} \times 6\frac{1}{2}$, is recommended for individuals and small buildings, and the 8 x 10 size for groups and large buildings.

On or near each photograph should be legibly written a brief statement of all facts of interest connected with the picture.

It is further recommended that each county send a set of unmounted photographs of the best school buildings and the most prominent educators, to be mounted by the State Committee, so as to form a large illustrated map of the State. These photographs should be 8 x 10 in size.

MANAGERS' ANNOUNCEMENT FOR THE SARATOGA EXCURSION.

To Kansas Teachers and their Friends:-

The next meeting of the National Educational Association is to be held at Saratoga Springs, N. Y., July 12 to 15 inclusive.

The undersigned assistant managers of the N. E. A. on transportation, announce that a rate of one lowest first-class limited fare for the round trip has been made, plus two dollars Association membership fee.

The Erie Railway has been chosen as the official route east of Chicago, and in view of that fact we purpose to organize parties in Kansas at various points along the A. T. & S. F. R. R., and other lines connecting with the A. T. & S. F. R. R. at Kansas City, Atchison, and St. Joseph, and combine these parties in a through official train to Saratoga. If you do not live on the line of the Santa Fe, see that your ticket reads via Santa Fe Route from Kansas City or St. Joseph to Chicago; otherwise you cannot go on this official train.

We have selected the Santa Fe for three reasons:—

1. Because it covers so large a portion of Kansas, and is consequently more convenient to a large number of teachers than is any other route.

2. The Santa Fe trains run into the same depot in Chicago with the Erie, and all trouble in making transfers, either of through cars or of passengers, is avoided.

3. Through chair cars and Pullman sleepers have been assured us, and special trains will be made up on branch roads to make connection with the official vestibuled train, which will probably leave Kansas City on the evening of July 8.

If you wish to make side-trips from Saratoga; if you desire to make stop-overs at your old homes in the East; if you desire to have your tickets extended, you can obtain information and privileges from us alone. We have taken care of you in the past; we know how to secure privileges; and we guarantee that you will not be disappointed if you join our excursion. Should there be any reduction in rates from the figures quoted, we are in a position to secure to every member of our party the advantage of such reduction; and we confidently expect a better rate. When you write, state whether you desire chair-car or sleeper accommodations, in order that we may provide sufficient equipment. If sleeper is wanted, say whether from your home or from Kansas City.

You, who have gone before on these N. E. A. excursions, will remember the advantages of joining the Kansas teachers. We have a grand reunion, form new acquaintances, and are in charge of experienced travelers and excursion managers. The Kansas State Teachers' Association officers and leaders will be with us.

Come, join us for Saratoga! For full details and special information not contained in this circular, please to write fully and freely to any of the undersigned Assistant State Managers of the N. E. A.

R. W. STEVENSON, Wichita.
S. W. BLACK, Chanute.
JOHN DIETRICH, Emporia.
FRANK H. CLARK, Minneapolis.
A. S. OLIN, Kansas City, Kas.
E. STANLEY, Lawrence.
H. G. LARIMER, Topeka.

May 24, 1892. J. D. ORR, Fort Scott. Note.—Send for our later circulars.

FINANCIAL STATEMENT.

To the Board of Directors of the Kansas Educational Exhibit of the Columbian Exposition:-Gentlemen: - I beg leave to submit the following account of receipts and expenditures on account of the Educational Exhibit of Kansas to June 24th, 1892. In this, I report the contributions of cities of the third class, with the counties in which they are located. Cities of the first and second class are reported under the counties, but separately. All the payments here enumerated have been made upon order of the President and Secretary as directed by the Board. A few small accounts pending such orders are not included.

CASH RECEIPTS.

Allen county	\$ 7 00	
Humboldt.	19 00	
Iola	30 00-	\$ 56 00
Anderson county	2 65	
Garnett	6 00-	8 65
Atchison county		
Atchison	100 00-	100 00
Barber county	33 95-	33 95
Barton county	24 50	65 10
Great Bend	40 60-	65 10
Brown county	5 00	
Hiawatha	30 00-	57 65
Horton	30 00	57 00
Cottonwood Falls.	16 27—	16 27
Chautauqua county	1 25-	1 25
Cloud county	7 17-	7 17
Coffee county	16-	
Burlington	35 00-	35 16
Cowley county		
Southwest Kansas College	25 00-	25 00
Crawford county		
Girard	32 02-	32 02
Dickinson county	42 35	
County High School	20 00-	62 35
Douglas county	50 08	
Lawrence	125 00	
Baker University	20 00	200.00
Hesper Academy	4 00-	199 08
Edwards county	11 50-	9 00
Elk county	9 00— 8 05—	8 05
Ellis county		0 05
Ellsworth county	5 75 12 50—	18 25
Ellsworth	30	-3
Finney county Garden City	15 00-	15 00
Ford county	31 80	
Dodge City	23 60-	55 40
Geary county	8 60	
Junction City	59 90-	68 50
Grav county	3 35-	3 35
Greenwood county	5 50	
Eureka	35 00-	40 50
Hamilton county	21 61-	21 61
Harper county	4 00	*
Anthony	15 00-	19 00
Harvey county	11 10	76 10
Newton	65 00-	70 10
Jefferson county	17 50 52 10—	69 60
Oskaloosa	52 10—	09 00
Jewell county	14 CO-	14 00
Johnson county	2 50-	2 50
Kearney county	13 35—	13 35
Labette county		
Oswego	25 00 -	25 00
Lane county	8 31-	8 31
Leavenworth county	25 20-	25 20
Lincoln county	29 16—	29 16
Linn county	27 45	27 45
Logan county	2 50-	2 50
Lyon county	7 45	
State Normal School	100 00—	107 45
McPherson county	25 12-	25 12
Marion county	9 00 -	9 00
Marshall county	18 35-	19 35
Meade county	19 35—	-9 33
Paola	22 50-	24 25
Mitchell county	27 80	
Beloit	18 50	
Girl's Industrial School	44 00-	90 30
Morris county	7 50	
Council Grove	45 00-	52 50
Nemaha county	11 50-	11 50
Neosho county	29 97—	29 97
Ness county	12 00-	12 00
Norton county	12 86-	12 86
Osage county	11 25—	11 25
Osborne county	20 00-	20 00
Osborne	49 25	20 00
Minneapolis	25 50—	74 75
Pawnee county	9 40-	
Phillips county	32 50-	
Pottawatomie county	10 65—	
Pratt county	11 50-	
Republic county	21 87—	21 87
Rice county	4 78—	4 78
Riley county	42 19	
Manhattan	32 25	101
State Agricultural College	30 co-	
Rooks county	3 85— 7 80—	
Rush county	6 35—	
Russell county	1 80	35
Saline county Brookville	28 60-	30 40
		0- 40

Scott county	15 60-	15	60
Sedgwick coun'y	12 00		
Wichita	239 18-	251	18
Shawnee county	116 90		
Topeka	300 00		
State Reform School	7 50-	424	40
Sherman county	11 00-	11	00
Smith county	9 25-	9	25
Stafford county	5 00-	5	00
Sumner county	4 00-	4	00
Trego county	4 00-	4	00
Wabaunsee county	14 00-	14	00
Washington county	40 97-	40	97
Wichita county	3 87-	3	87
Wilson county	86 25-	86	25
Woodson county	32 46-	32	46
Wyandotte county	17 83		
Kansas City			
Rosedale		88	86
State Teachers' Association		200	00
Total		\$3,216	01
DISBURSEMENTS.			
Order No. 1, F. A. Lewis, Express on financial cir	rcular	\$ 24	16
Order No. 2, C. L. Traver, Express on financial ci			56
Order No. 3, G. W. Winans, Express on finan	icial pro-		
grammes		26	00
	icial pro-		
Order No. 4, G. W. Crane & Co., Printing finan			1
Order No. 4, G. W. Crane & Co., Printing finan	P	115	00
grammes			20
Order No. 5, G. T. Fairchild, Treasurer, Statione	ry	11	20
grammes	rytc	11	

THE

GEO. T. FAIRCHILD, Treasurer.

2 45

\$435 11

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Respectfully submitted,

Order No. 12, G. T. Fairchild, Traveling Expenses....

Order No. 11, E. H. Rowland, Stationery

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COLORADO,

The Agricultural, Fruit, Mineral and Timber Lands, and Famous Hot Springs of

ARKANSAS,

The Beautiful Rolling Prairies and Woodlands of the

INDIAN TERRITORY,

The Sugar Plantations of LOUISIANA,

The Cotton and Grain Fields, the Cattle Ranges and Winter Resorts of

TEXAS,

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OLD AND NEW MEXICO,

And forms with its Connections the Popular Winter Route to

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THE HIGHER INSTITUTIONS.

THE STATE UNIVERSITY.

It is clearly understood that the State University will be brilliantly represented by Prof. Dyche's zoological collections, which will be one of the chief adornments of the State Building. Other work will take its place to the credit of the University and the State, but particulars are not as yet at hand.

THE STATE AGRICULTURAL COLLEGE. It is well known that the Kansas State Agricultural College is sustained by endowment from the general government, as well as by direct appropriation under acts of Congress. It therefore belongs to a group of institutions to be represented in the government buildings of the great Exposition by typical exhibits of college equipment and Agricultural Experiment Station work. These will be arranged in several, alcoves representing the general departments of experiment, and the Kansas State Agricultural College will contribute to several of these alcoves. The alcove devoted to horticulture is under the direction of Prof. Popenoe, and will call for the best energies of his own department for its equipment.

This college has also applied for space in the Department of Liberal Arts, alongside the educational exhibit from this state, where it will make a distinct exhibit of its educational features and methods, with results, so far as the limited space will permit.

In the State Building, where display, rather than exhibition is the rule, the College expects to have space for display of its peculiar characteristics as one of the State Institutions. Photography will serve an excellent purpose here, but special collections of means of illustration and results of training will be provided for.

THE STATE NORMAL SCHOOL.

The State Normal School, never behind in any concern of the State, will do its fair share in exhibiting the educational interests of Kansas. Its wonderful growth in recent years may well be a subject of display in graphic presentation; and its methods and results will appear in proper place.

The next Columbian Supplement, to be issued in August, will doubtless contain fuller explanation of the plans and prospects of the several

State Institutions.

A SUNDAY-SCHOOL EXHIBIT.

There is a proposition on foot to erect a \$25,-000 Sunday-school building at Chicago, and fill it with Sunday-school appliances.

To raise the necessary funds, it is proposed that Sunday-school teachers pay ten cents each, and pupils, one cent. We trust that all denominations may work together harmoniously in this movement, and make it productive of the great good of which it is capable.

THE WOMAN'S BUILDING.

The women of Kansas are organizing everywhere to make ready their exhibit for the Columbian Exposition. Everything showing forth the capabilities of woman will be welcome. The women of Kansas will probably have an exhibit also in the State building. The construction and furnishing-everything so far as possible-will be done by women.

THE STATE NORMAL SCHOOL

ENROLLS ALMOST 1,400 PUPILS FOR THE YEAR ENDING JUNE 9, 1892.

EIGHTY-EIGHT KANSAS COUNTIES AND SEVENTEEN STATES AND TERRITORIES REPRESENTED.

Teachers seeking a school in which to prepare themselves more fully for their work will find unequalled opportunities at the State Normal School. Young men and women who may intend to teach can find no such facilities for acquiring an education, and for obtaining a knowledge of all that is latest and best in appliances and methods, anywhere else in the State.

Parents desiring a school in which their children will receive a liberal education, and at the same time become thoroughly fitted for the honorable profession of teaching, are reminded that it can be accomplished here with less expense than at any other school in Kansas.

Railroad fare in excess of \$3 is refunded to all

Kansas students.

The diploma is a life certificate to teach in

REMEMBER, that in building, in equipment, in the ability of its Faculty, in the enthusiasm of its students, in the thoroughness of its work, the school now stands recognized as one of the best in the West, and as most worthy the confidence and the patronage of the good people throughout the State.

For Catalogue and circulars, address

A. R. TAYLOR, President, Emporia, Kansas.

LOCAL MATTERS.

The Fall Term will open September 14th.

Mr. and Mrs. Breese are visiting relatives in Chase county.

The Annual Address crowds out much local matter this week.

The carpenters are building a large wall case for mineralog-

ical specimens.

A powder magazine is being built on the bank of the stream north of the Horticultural barn.

Prof. Walters has just completed original drawings for the steeple of the new German Church in Manhattan.

Wheat harvest is in progress while this issue of the Industrialist is being printed. The yield promises to be above the

The water running from two fire hose is barely sufficient to break the back-bone of the drouth in the limited area of the principal lawns.

The mechanics in the Iron Shop are busy with repairs of the wood working machines, which will soon be in readiness for another year's work.

This issue of the Industrialist somewhat exceeds 13,500, and is the last for the College year. The first number of Vol. 18 will be printed August 20th.

A better looking potato field one could not wish to see than

that of the Horticultural Department. With favorable weather, a good crop of many of the kinds is assured.

The Farm Department has two fine Shorthorn bulls for sale, coming two years old in the fall. It you need a good bull, write to Professor Georgeson for prices on these.

Prof. Failyer is devoting most of the vacation to making the collection of the economic minerals, including building materials, of the State, to exhibit at the Columbian Exposition. At the same time he will obtain data for an article on this subject for the next biennial report of the State Board of Agriculture.

The Farm Department has sold to the Oklahoma Agricultural College, at Stillwater, a Holstein bull, a Shorthorn bull, and two Shorthorn heifers. These animals, with two Holstein heifers which Prof. Georgeson helped the College representatives to buy in Topeka, will form the foundation of a good herd for the Oklahoma institution.

The rapidly increasing number of pipes has led the Mechanical Department to prepare a plat of grounds and buildings, showing the location of every water, steam. gas, sewer, and and drain pipe on the premises, with all valves. Such a chart has long been needed, and now that it is accessible in Prof. Hood's office will early prove its convenience.

The College will be represented at the National Educational Association at Saratoga, New York, July 12-14, by Professors Walters and Olin, Mrs. Olin, E. Ada and Nellie Little, Julia Pearce, and Florine Secrest will make up the party. Prof. and Mrs. Olin intend to go to Chicago with the teachers of Wyandotte county. This party will leave Kansas City on the evening of July 5th, over the Santa Fe. and join the Christian Endeavor Excursion over the Erie road at Chicago on the evening of July 6th. Prof. Walters will go under the Kansas teachers' flag which was awarded to the teachers of Russell county at the Toronto meeting last year, and which will wave in the hands of Supt. Bickerdyke. This party will pass Manhattan on the Union Pacific road on Saturday, July 9th, travel over the Burlington road from Kansas City to Chicago, and join the N. E. A. excursion over the Erie road on the evening of July 10th. All who wish to join either of these parties will be welcome.

Orders for Currell wheat of the present crop are a ready coming in, and the demand for this promising new variety will, apparently, much exceed the supply. In order to accommodate the largest possible number of intending purchasers, Professor Georgeson desires us to state that the amount sent to any one address will be limited to two bushels. Orders accompanied by cash will be filled in turn as received while the supply lasts. The price will be \$1.50 per bushel, sacked and delivered at the depot or express office. The College does not aim to make money on this wheat, neither can it afford to incur any loss. Grown in experimental plats, as this wheat is, with the careful handling it requires, it is estimated that it cannot be sacked and shipped for less than the above price. Besides the Currell, the Farm Department has upwards of two hundred varieties of winter wheat, grown in small quantities, now ready for the harvester, most of which promise well. These wheats are described in Bulletin No. 20 of July, 1891. They will be sold while the supply lasts at 50 cents a peck, sacked and delivered free to the transportation companies.

GRADUATES AND STUDENTS.

H. Darnell, '92, is attending the Alma Institute. Florine Secrest, '89, has returned from California

C. A. Campbell, '91, visited Ottawa this week collecting for the Horticultural Department.

W. E. Whaley, '86, is at home after a year's study in Northwestern University, Chicago

The following students are attending the Wamego Institute: Lucy Eliis, Nellie Stewart, A. L. Frowe, Dean Arnold, Victor Emerick, Rose Francis, W. E. Currie, R. A. Gilliford.

Abbie Marlatt, '88, has finished her second year's work as Professor of Domestic Economy in the Utah Agricultural College at Logan, and is at home for a visit of two months.

The Kansas City Fournal announces the marriage of Frank L Parker, '86, to Robbie Edgington, Second-year in 1883-4, on June 23rd at the home of the bride's parents in Morse, Kansas. Mr Parker is manager of the Atchison, Topeka and Santa Fe Railway telegraph office at Pueblo, Colorado. The bride has been teaching in the Argentine schools. Matie E. Toothaker, Second-year in 1888-9, was a bridesmaid.

Students are employed by the College as follows: In the Executive Department, Margaretha Horn, Mary Lyman, Perry Law; Farm—A. D. Rice, H. G. Pope, H. W. Mattoon, G. L. Christensen, C. B. Selby, T. E. Lyon, E. D. Fay, W. E. Bryan, M. C. Findley, W. C. Meade, F. E. Rader, W. H. Wood, W. H. Austin; Horticultural—Bertha Kimball, F. C. Sears, C. P. and J. W. Hartley, W. E. Smith, Fred Smith, A. Dickens, F. W. Ames, E. A. Clark, T. W. Morse, F. Baxter; Botanical—Minnie Reed, C. H. Thompson, Elsie Crump; Veterinary—S. B. Johnson; Mechanical—G. W. Wildin, C. R. Hutchings; Printing—M. F. Hulett, W. O. Lyon, F. R. Jolly.

SUCCESS

[Continued from page 170]

thing of business; I know something of what it requires. I know something of what is required to discharge the duties of any of the professions. I know that the lawyer goes out into the forum where Greek meets Greek armed and equipped for the fray. Every ambitious lawyer is stimulated to the highest exertion by the competition he meets, by the conflict of ideas and interests. The lawyer has precedents; he has the rules of the courts; he has the decisions of the Supreme Court. The doctor studies the practice of other years; he feels the pulse of the patient, he examines his tongue, and he questions him a little in regard to his aches and pains, and prescribes according to rules. The manufacturer, to secure the highest success, must know exactly how much wool, and how much cotton, and how much shoddy he must put in to make a yard of cloth. He has precedent; he has weights and measures; he has rules.

Now, go to the farmer. What rules has he? I do not want to discourage you, for, if I were a young man again, with all my experience, I would go back to the farm now, and again go through the same experience. And yet, the farmer is confronted with difficulties which come upon him without an established rule or regulation to aid him in the conflict. For a month it rains all over this country. We could not plow or fit the ground for the seed, and if we sowed or planted we had to leave it to the tender mercies of cold and mud with but slight ground for hope that it might grow. All this was something new. We had no similar experience to guide us. We had not planned for this strange condition of affairs; we were not responsible for it. It was a conflict waged against us, without rule, law, or regulation to aid us. But in our own interests and in the interest of the country, we must meet the difficulties and emergencies heroically with all the resources at our command.

I say to you, verily, the farmer has to know more, to faithfully and fully discharge his duties, than any other man. He has got to have a broader knowledge, more skill, if he succeeds in the race of life on the farm. A man may go out on a farm, or anywhere else, and live there all his life, and die there, and his friends will bury him; but if he rises high in the scale in this life, he has got to be a man of knowledge. There is no place where brains are more needed than on the farm, and the farmer is the most important man in all the relations of life. He is the man who whitens old ocean with the commerce of the world. If the farms should cease to bring forth for a twelvemonth, the whole world would be in starvation,—worse than Russia. And I repeat that in a twelvemonth we should be in starvation; the ships would rot at the wharf; the cars would rust on the sidetrack if the farms should stop producing a year. A cyclone or fire may destroy every city in the land, leaving agriculture untouched and prosperous, and it could and would by a mighty effort rebuild the waste places higher and grander than before, as was done at Chicago after the great fire, by the profits made from pigs

WHY PEOPLE LEAVE THE FARMS.

The census of every decade warns that the rural population in the older States is less when compared with the city population. The rural population is less relatively than it was ten or twenty years ago. This fact is challenging the attention of men and women everywhere. Thoughtless men in and out of Congress are insisting that this condition is brought about, or at least encouraged, by some fault in the law. But a moment's downright honest, thoughtful attention must convince anyone that it is one of the natural results growing out of the inventive genius of the age in which we live. The inventor and manufacturer give us machinery by which one man can perform in many departments of tarm labor tasks that required from two to ten men twenty-five years ago. At that time I cut wheat on my farm with the cradle, laying long the swath which was raked and bound by hand. It required the laborious effort of twelve men to accomplish the task that one man will now perform. The labor-saving machinery in use today is not confined to harvesting, but runs all along the line of work on the farm. And this illustration goes far towards furnishing a solution of the great problem that is engaging the attention of political economists. It is true that

our rural population is going away from the farms because it is not needed there. We can raise more wheat and other agricultural products than can be consumed with a much less relative population than formally. Right or wrong, for better or for worse, this is inevitable. And its most striking illustrations have not yet been realized. More and more men are going daily from the farms to the towns and making machinery and other implements for the farmers. The men who formerly sowed and planted our grain, cut and bound it when ripened by hand, are now making reapers, or perhaps listers (something I never heard of before), which plow, fit the ground, and plant the corn all at one stroke.

Now, the point I want to make in relation to the relative reduction of population in the rural districts is, that each farmer must be stronger in his calling and in all the attributes of manhood. He must stand up in his might and discharge all of his duties ably, faithfully, and well, with a skill born of the highest motives and best education; that it is possible for him to secure. The educated man goes out into the world, and I tell you, though one man may do the work that required many to perform twenty-five years ago, yet the farmer of today enjoys such vast facilities for education that with brain power increased, he can make up in force and influence for the relative reduction in numbers. And again, the farmer must be strong as a moral force in this heavenblessed land of ours. If the dark shadow ever hovers over the land, if soulless corporations with untold wealth at their command are, or ever shall become, dangerous to the liberties of the people, or if the red-handed anarchist shall go forth to kill and destroy, the heart and confidence of the Nation will go out to the rural population as their rock of safety. The farmers never will become millionaires or anarchists. Yet they have rights to protect and interests to promote, and, to achieve the highest success in their calling, this must be done with skill. wisdom, and prudence. They should have leaders sagacious enough to fully appreciate what can and what cannot be done through human agencies. Under these skillful leaders they should unite their forces, working to serve their own highest good, and thus contribute to the welfare and prosperity of our common country.

CO-OPERATION.

The mighty achievements of the age in which we live have been wrought out through co-operation and concentration of purpose. The farmers have been slower to percieve this great truth than any other portion of our people. The reasons are easily discovered, but I have not time to dwell upon them here tonight. But possibly because the farmers have not united their efforts as generally as men engaged in other pursuits, they have not seemed to fully appreciate the force and power of co-operative efforts, nor, in some cases, the limit of their power. We can, through its influence, become more skilled and better farmers. We can more surely, through its influence, learn to cultivate our acres, and still retain their fertility. A man who wears out his soil in cultivation is a great sinner against himself, his family, his community, his country, and against millions yet unborn. The trouble brought upon Russia, that has left in its trail woe, misery, starvation and death, was caused largely by impoverishing its soil. Egypt, once the granary of the then known world, brought upon itself decay, ruin, and death by oppressing the husbandman and destroying the fertility of its soil. Warned by these examples, we are stimulated to resort to all legitimate means within our power to resist any possible tendency to follow in the footsteps of any of these nations that have gone before us. We must have brains on the farms. This is the one fertilizer that is good on all soils. It is good when it rains, and good when it's dry; it is good at all times, and in all years, and we have it everywhere. We have it in Michigan, you have it in Kansas. One singular but glorious feature about it is the more you use of it the more you have left. But even with all the brain power we can possess, there are certain things we cannot accomplish. We cannot change the hour for the rising and setting of the moon, nor the courses of the stars in the heavens; nor do I believe that we can cause the rain to fall or the sun to shine out through the clouds. There are many things that we cannot accomplish through the force of public opinion or by virtue of State or National laws. But we can, if we will, protect and promote every interest and right where law cannot do it.

As I have intimated, the tillers of the soil have contributed, and are willing to still contribute, their full share, and more, to the development and prosperity of our common country. All men everywhere recognize the fact that agriculture furnishes the safe and sure foundation for the nation. And I believe that many of these same men are equally confident that it does not always receive its just reward. It has been too modest in its demands. It ought to have more brainy representatives-men who have through their lives clasped hands and touched elbows-yea, even more; who have toiled side by side with the farmers, and thus have learned of the joys, sorrows, ambitions, and aspirations of those engaged in this great calling to represent it in both houses of Congress. One thing more it ought to have, and that is one representative of the same class in the President's Cabinet. All this and much more has been understood by patriots; students of history, statesmen, and even politicians have dimly perceived these great facts. Business men in all departments fully realize the fact that their prosperity depends upon the individual success of the farmer. It was through a knowledge of these facts that Congress was induced to make, in the first place, large appropriations of land for the establishment of agricultural colleges in all the States. As one of the conditions of this grant, not only agriculture, but the mechanic arts, must be taught, thus recognizing the national importance of another great industrical pursuit. Since the appropriation originally made, Congress has made large appropriations of money to aid the experimental department of these colleges. Many of the States, foremost among which are Kansas and Michigan, joined forces with the national government in establishing and maintaining these colleges. The justification for all these appropriations is found in the importance to the State and nation of agriculture and the mechanic arts. The necessity for this existence is enhanced by the relative reduction of the rural population to which I have referred.

The strength of men is not now estimated so generally by their physical powers as by their mental endowments. This is the reason why, in part at least, the Kansas Agricultural College is here as a live institution today. The State and nation have been generous with it, as they have with other institutions of its class. But we must remember "Where much has been given, much

is required."

I dare not hope that all of these young ladies and gentlemen before me will go out into rural life and add to the intellectual forces so much needed there. But, from an extensive acquaintance with students who have been educated in similar institutions, I can with confidence predict that each and every one of you, no matter what your calling may be, will, from this hour to the end of life, entertain a profound respect for labor. This is one great point gained. But I desire to address myself for a moment more especially to those who are to remain farmers; those who have chosen or will choose this honorable occupation as their own. All the rules presented as essential to the achievement of success apply to you with even greater force than to others. One of the glories of this College is that it is eminently practical in all of its teachings and influence.

Take these lessons to your rural homes. Utilize them wisely and well. With the privileges you have enjoyed here, which may go with you through all the toils and conflicts of life, you can and will become leaders for good in the community where you reside. That community which has no well-balanced leader with lofty aspirations for the public good is certainly to be pitied. And right here you, with your superior education, can find a place for the use of all your natural and acquired abilities. But this moment it occurs to me that I am liable to a misunderstanding. Pray do not go into a community and intimate by word or deed that you have come there to be a leader of the people. If you do this, I can assure you with confidence that you will not succeed in this line of your work. Be in no hurry to assume leadership, but seize hold of anything that comes in your way that will interest or benefit the community where you reside. Work zealously and unselfishly in the church, in Sunday-school, in the social circle, in agricultural society or in the political field, and the proud leadership will come in good time. Remember always that the race is

no longer to the physically swift or strong, but to the pure in heart and the cultured of brain.

Now, in conclusion, permit me to admonish you, each and all, to secure a home of your own. Home ownership begets patriotism, and patriotism in a republic is an absolute necessity to the perpetuity of our institutions. Although you may accumulate great fortunes and become possessed of great knowledge, and have not patriotism deeply imbued in the heart, it will profit but little to the coming generations. Ownership of home and soil makes men and women patriots. They own a spot of god's earth and it makes them love the whole country better. Besides, the sweetest joys of life are found around our own hearthstone and beneath our own roof. When the ripened years come and the joys of life are found in reviewing the past, the sweetest memories cluster around the homes of our childhood. Land is now cheap in Kansas. You can have a home for a little more than the asking. It will not always be thus.

Trusting that the Class of '92, and all of its successors for a century, will go out from here imbued with lofty aspirations and with a firm determination to add honor and dignity to labor everywhere, and that the students from this College may exert a great influence in moulding, and be a force in controlling, the affairs of this and sister States, and thanking you for the attention you have given me, I now bid you good night.

GROUNDS AND BUILDINGS.

The College grounds and buildings, occupying an elevation at the western limits of the city of Manbattan, and facing towards the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard, and sample grounds attached, the whole being surrounded by durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and all are heated by steam or hot water. A complete system of sewerage has been provided. The buildings may be briefly described as follows.

College, 152 x 250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception-room, cloak rooms, studies, chapel, library, reading room, kitchen laboratory and dairy, sewing room, society roo nd

12 class-rooms.

Chemical laboratory, one story, 26×29 and 46×75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39 x 103 feet, two stories, and 40 x 80 feet, one story, occupied by wood and iron shops, printing office, music rooms, iron foundry, lumber rooms, etc., in addition.

Horticultural Hall, 32 x 80 feet, one story and cellar, having

cabinet room, class room, and storage, with greenhouse attached.

Horticultural and entomological laboratory, with propagating house attached.

Two stone dwellings, occupied by the President and Profes-

sor of Agriculture.

Museum building, 46 x 96 feet, and two stories. This building, which has served many purposes, is now fitted for an armory, drill-room, and veterinary laboratory below, and for class-room and laboratory for Department of Botany, and Museum of Natural History above.

The farm barn is a double but connected stone structure, 50×75 feet and 48×96 feet, with an addition of sheds and experimental pens 40×50 feet. A basement, having stables for 75 head of cattle, silos, engine room, and granaries, underlies the entire structure.

The horticultural barn is a stone building, containing store-room, granary, and stables for several horses.

The lumber house, implement house, piggery, and various out buildings are of wood.

TERMS OF ADMISSION.

Applicants for admission at the beginning of the College year must be at least fourteen years of age, and able to pass a satisfactory examination in reading, spelling, writing arithmetic, geography, English grammar, and United States history. Those applying later in the year must show sufficient advancement to enter the classes already on progress. Every effort should be made to begin with the first day of the term, in order to advance with the classes from the first.

The following diplomas and certificates will be received in lieu of entrance examinations:—

1st. Diplomas received on the combletion of a county course of study which has been approved by the Faculty, when prop-

erly signed by the county superintendent.

2d. Certificates of passing the grammar grade in any city school with a course of study approved by the Faculty, when properly signed by the city superintendent.

3d. Kansas teachers' certificates issued by the County board of examiners, showing that the above named studies have been passed with a grade of at least 70 per cent.

The Faculty have approved the courses of study adopted by many counties and cities; andothers may be submitted for approved at any time.

proval at any time.

Applicants of mature age, who, for lack of advantages, are unable to pass the full examination, may be received on special conditions.

Applicants for advanced standing in the course must pass examination in all the studies of the class to be entered; but, if they have pursued such studies in other institutions of similar rank, they may receive credit for their standing in these institutions, upon presenting a certificate from the proper officer, showing that their course has been equivalent to that given

State Agricultural College THE - COLLEGE - YEAR 1892-3

Promises a LARGER ATTENDANCE than ever of Farmers' Sons and Daughters from the country schools.

BETTER FACILITIES

Are offered in this College than elsewhere for genuine training in the ARTS and SCIENCES together. The industries of life form the basis of the course. For these reasons it is the

LARGEST

OF ITS KIND

IN THE WORLD

FOR ILLUSTRATED

CATALOGUE

PRE

PRESIDENT OR SECRETARY

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

SWINGLE & VARNEY'S Book-Store for School Supplies of all kinds.

FOX'S BOOK STORE.—college Text-Books, School Stationery, Pencils, Scratch-books, Ink, etc. Manhattan, Kansas.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc. '75.

DRY GOODS.

A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest style, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

WATCHES, JEWELRY.

J. Q. A. SHELDON, "the Jeweler." Established in 1867. Watches, Clocks, and Jewelry repaired. Eames Block.

R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry, and Gold Spectacles, also Musical Instruments. '75.

E. K. SHAW, Jeweler and Optician. Watches, Jewelry, Silverpairing of Watches, Clocks, Fountain Pens, Gold Pens, etc. Repairing of Watches, Clocks, Spectacles, and Jewelry done promptly and skillfully. A written guarantee given with all warranted watch work. 308 Poyntz Ave.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

HARDWARE.

A. J.WHITFORD sells Stoves and Hardware at very low prices, and carries a large stock from which selections may be made. Student patronage respectfully invited.

DENTIST.

DR. G. A. CRISE, Dentist, 321 Poyutz Ave. The preservation of the natural Teeth a Specialty.

PHOTOGRAPHS.

DEWEY, the Photographer, will henceforth make photographs for students at special rates, which may be learned by calling at the gallery on Poyntz Avenue. Examine the new "aristo" photographs, unequaled for beauty of finish.

BOOTS AND SHOES.

REBATE TICKETS given on all cash sales. For tickets amounting to \$5 00 you will be presented with one of three books, "Success," a record of the lives of noted men; "The Home Guide;" or "Compendium of Cookery." Reliable Boots, Shoes, and Rubbers. Latest styles and low prices. LESLIE II. SMITH.

LIVERY.

PICKETT'S NEW LIVERY STABLE.—Everything new and strictly first-class. Special attention will be given to student trade. Prices that will suit you. Stable three doors east of Commercial Hotel.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety.
Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00, cash. Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, South Second Street.

GENERAL MERCHANDISE

THE SPOT CASH STORE is Headquarters for Dry Goods, Notions, Boots and Shoes, Hats and Caps, Clothing, and Ladies Wraps. Lowest prices in the city.

B. PURCELL, Corner of Poyntz Avenue and Second Street, has the largest stock in Manhattan, of everything wanted by students, consisting in part of House-keeping Goods, School Books, Stationery, Boots and Shoes. Clothing, Hats and Caps, Dry Goods, Groceries, etc., etc. Goods delivered in all parts of the city and at the College, free of charge.